COLUMBIA UNIVERSITY QUARTERLY

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CHARLES FREDERICK CHANDLER TESTIMONIAL SUPPLEMENT

FOREWORD

THE resignation of the chair of chemistry in Columbia University, by Dr. Charles Frederick Chandler, after more than forty-six years of efficient and devoted service, has elicited such a spontaneous outburst of appreciation and affection from his former students, colleagues and fellow scientists, that the alumni of the University deem it appropriate and desirable that a permanent record should be made of the same. The COLUMBIA UNIVERSITY QUARTERLY has, therefore, been requested by various alumni organizations to publish an account of the several banquets tendered to Dr. Chandler by his friends, and to enumerate and describe the testimonials presented to him. Many of the alumni who were unable to attend or join with their more fortunate fellow graduates in publicly expressing their regard for their old professor upon his retirement from the University, will doubtless be glad to hear what has been done, while to those who were able to be present and take an active part, it is believed this record will be a welcome souvenir.

In addition to the action of the trustees and faculties of the University and the complimentary dinner and testimonial of the alumni of Columbia, a record is also contained herein of the testimonials received by Dr. Chandler from his colleagues and the alumni of the College of Pharmacy, the Chemical Societies of America and the undergraduates of Columbia University, all of whom while expressing their regret at Dr. Chandler's retirement, have recorded their high appreciation of his exceptional professional and personal qualities.

PROFESSOR CHANDLER'S LETTER OF RESIGNATION

January 3, 1910

President Nicholas Murray Butler,
Columbia University

My Dear Dr. Butler: After mature deliberation I have decided that it is much better to withdraw from active service while one is in the full enjoyment of health and strength, rather than to wait until the infirmities of age make it evident to all that one has outlived his usefulness.

This is my forty-sixth year of service at Columbia, and my fifty-fourth year of college teaching, and I feel that I have had my fair share of this most agreeable life.

I wish to take this opportunity to express my gratitude to you and the other members of the Board of Trustees and their predecessors for the confidence with which they charged me from the outset with the various duties of instructor, dean, bursar and registrar, and the generous support which I have always received from them.

I would respectfully request that I may be relieved from the active duties of my professorship at the end of the present academic year.

Very respectfully yours,
Charles F. Chandler

TRUSTEES' RESOLUTIONS IN ACCEPTING DR. CHANDLER'S RESIGNATION

In receiving the application of Charles F. Chandler, Ph.D., M.D., LL.D., Sc.D. (Oxon.), Mitchill professor of chemistry, to be relieved of active service at the close of the present academic year, the Trustees wish to place on record an expression of their sincere appreciation of the distinguished service which Professor Chandler has rendered to Columbia University and to the science of chemistry during his long and active career as teacher and investigator.

Immediately upon receiving the degree of doctor of philosophy from the University of Göttingen in 1856, Professor Chandler entered upon his life work of academic teaching. From 1857 until his appointment, in 1864, to be professor of chemistry at Columbia, Professor Chandler was head of the chemical department of Union College. On his transfer to Columbia in 1864, he threw himself heartily and generously into the task of developing the newly organized School of Mines. In addition to the heavy duties of his professorship, Professor Chandler served for thirty-three years as dean of the School of Mines, and to his effective and conscientious administration of its business that great School owes no small share of its usefulness and prestige. Besides bearing the burden of administrative and teaching duties, Professor Chandler found time for important public service during many years' incumbency of the presidency of the Health Department of the City of New York. He has also been an enthusiastic and prolific investigator of chemical problems, particularly those arising from the application of the science of chemistry to the public health and to the various forms of industrial activity. Professor Chandler is a member of the chief learned societies, at home and abroad, in which chemists are represented, and he has received well-merited recognition at the hands of his colleagues in chemistry in England, as well as in America, together with the highest honors of the University of Oxford. The Chemical Museum of the Univer-

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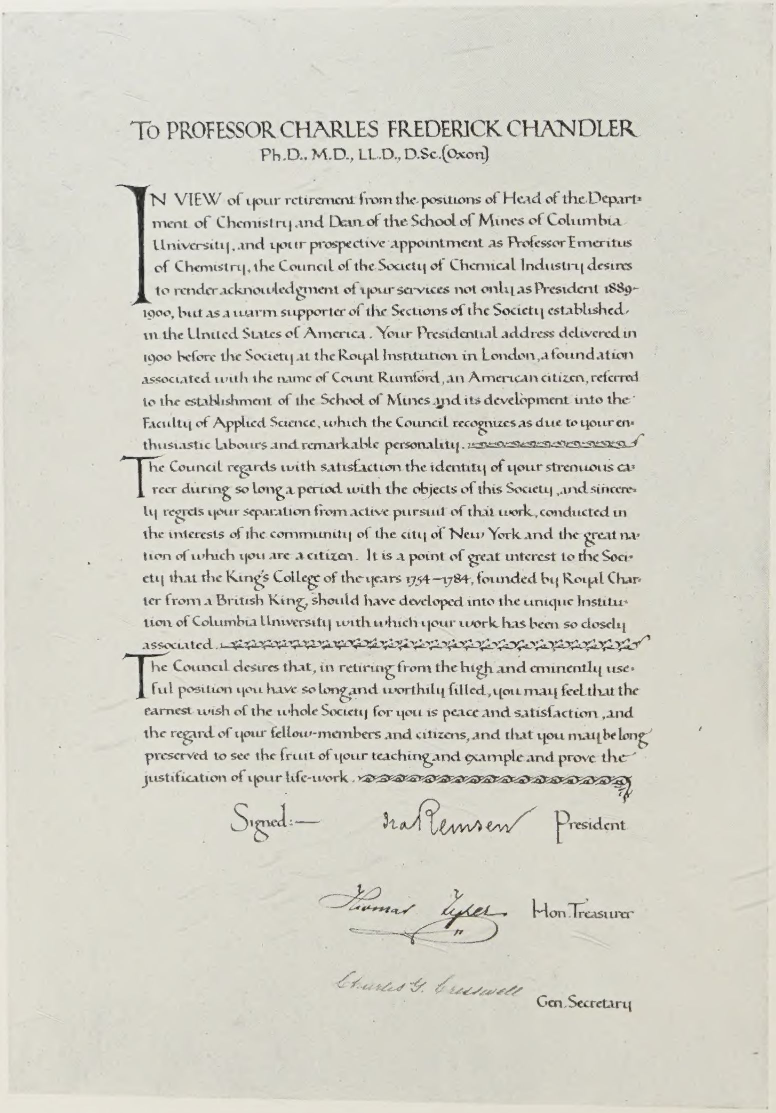


TO PROFESSOR CHARLES FREDERICK CHANDLER
Ph.D., M.D., LL.D., D.Sc.(Oxon)

IN VIEW of your retirement from the positions of Head of the Department of Chemistry and Dean of the School of Mines of Columbia University, and your prospective appointment as Professor Emeritus of Chemistry, the Council of the Society of Chemical Industry desires to render acknowledgment of your services not only as President 1889-1900, but as a warm supporter of the Sections of the Society established in the United States of America. Your Presidential address delivered in 1900 before the Society at the Royal Institution in London, a foundation associated with the name of Count Rumford, an American citizen, referred to the establishment of the School of Mines and its development into the Faculty of Applied Science, which the Council recognizes as due to your enthusiastic labours and remarkable personality.

The Council regards with satisfaction the identity of your strenuous career during so long a period with the objects of this Society, and sincerely regrets your separation from active pursuit of that work, conducted in the interests of the community of the city of New York and the great nation of which you are a citizen. It is a point of great interest to the Society that the King's College of the years 1754-1784, founded by Royal Charter from a British King, should have developed into the unique Institution of Columbia University with which your work has been so closely associated.

The Council desires that, in retiring from the high and eminently useful position you have so long and worthily filled, you may feel that the earnest wish of the whole Society for you is peace and satisfaction, and the regard of your fellow-members and citizens, and that you may be long preserved to see the fruit of your teaching and example and prove the justification of your life-work.

Signed:— Ira Remsen President

Thomas Tyler Hon. Treasurer

Charles G. Cresswell Gen. Secretary

RESOLUTIONS OF THE SOCIETY OF CHEMICAL INDUSTRY sity, which has been built up by his efforts and in no small part by his generosity, is unique of its kind and will remain a monument to his untiring activity.

Professor Chandler will carry with him into his retirment the affectionate regard and esteem of two generations of students, as well as of a host of colleagues on the teaching staff of the University.

The Trustees record their grateful appreciation of this long and generous career of devoted service.

Resolved, That the application of Charles F. Chandler, Ph.D., M.D., LL.D., Sc.D. (Oxon.), Mitchill professor of chemistry, to be relieved of active service, be granted, his retirement to take effect on June 30, 1911.

Resolved, That Professor Chandler be granted leave of absence from academic duties, on full pay, during the academic year 1910–11, and that after his retirement on July 1, 1911, he be invited to continue to make use, during his pleasure, of the chemical laboratories of the University for his own private studies and researches.

Resolved, That Professor Chandler be nominated to the committee on honors for appointment as emeritus professor of chemistry, such appointment to take effect from and after his retirement from active service.

Resolved, That the Clerk be requested to make application to the Carnegie Foundation for the Advancement of Teaching for a retiring allowance for Professor Chandler, based upon age and academic service, such retiring allowance to take effect from and after July 1, 1911.

Dear Dr. Chandler:

It gives me the greatest possible pleasure to say to you that the Trustees, at their meeting today, adopted the following resolution on the recommendation of the committee on education:

Resolved, That the chemical museum of the University be hereafter known as the *Chandler Chemical Museum,* in honor of the long and generous service of Charles F. Chandler, Ph.D., Mitchill professor of chemistry, who will retire from the active service of the University on June 30, 1911.

Faithfully yours,
Nicholas Murray Butler,
President

MINUTE ADOPTED BY THE FACULTY OF APPLIED SCIENCE APRIL 29, 1910

At the end of the present academic year our colleague, Charles Frederick Chandler, retires from active service. Appointed in 1864, he has occupied the chair of chemistry for forty-six years. It is, therefore, fitting that the Faculty should enter upon its minutes its appreciation of his long, faithful and distinguished service.

Professor Chandler came to Columbia a young man. Born in 1836, he was but twenty-eight years old when he resigned his professorship at Union College and accepted appointment here to aid in the organization and development of the new School of Mines. The decision required both faith and courage, as the establishment of a mining school, in itself an experiment, in an institution with, at that time, limited financial resources, offered but doubtful chances of success. That the School of Mines proved most successful from the beginning we all know, and that this success was due to the ability and devotion of Professor Chandler more than to any other man we can all testify. From the beginning he was chosen by his colleagues to be the dean and administrative head of the new school, and for thirty-three years (until 1897) he occupied this responsible post, and gave to its onerous duties most faithful and devoted service.

This, with the responsibility for his own department of instruction, not only in the School of Mines but in the College, in the College of Physicians & Surgeons, and in the College of Pharmacy was surely enough work and sufficient care for any ordinary man, but not for him. Outside of his academic duties, Professor Chandler has had an unusually broad and varied life of useful service. From 1867 to 1884, seventeen years, he was first chemist and afterwards President of the Board of Health. During part of this time, from 1870 to 1877, he was editor of the *American Chemist*, and later chemical editor of Johnson's Encyclopedia. He has also, in addition to these and other collegiate and public duties, found time for active practice of his profession, and has been prominently identified with numerous and important lines of chemical industry.

Professor Chandler has had many honors conferred upon him in recognition of his brilliant services to the profession and to the world.

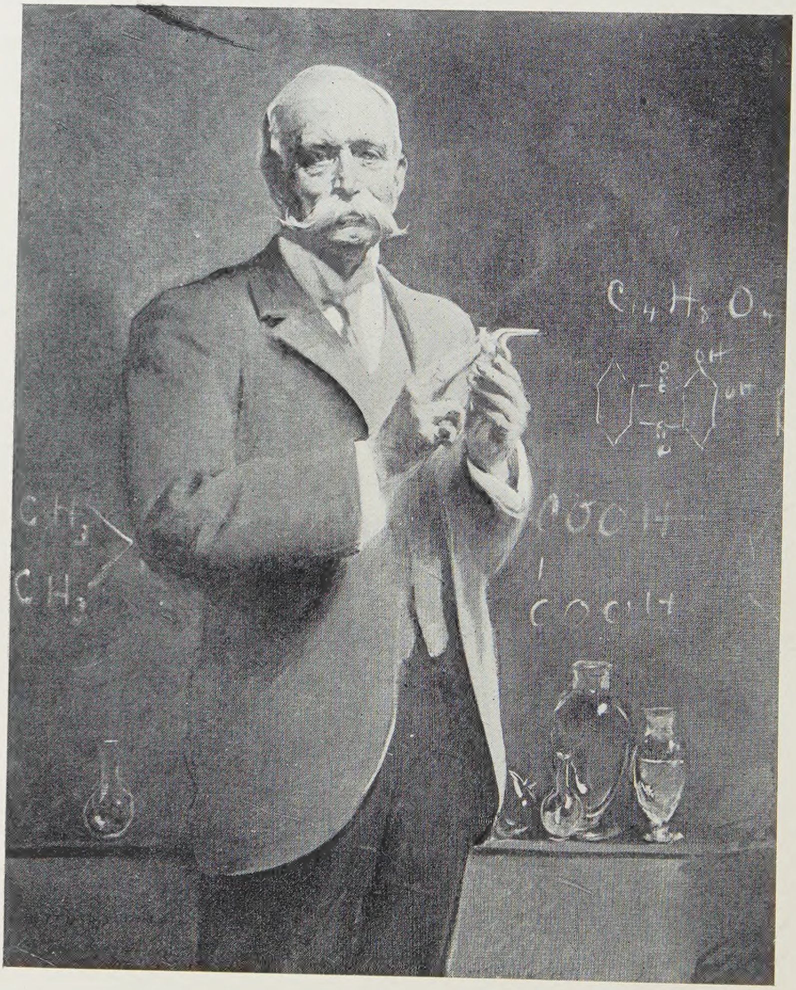
1873, LL.D. Union College,
1873, M.D. University of New York,
1874, President of Centennial of Chemistry,
1881–89, President American Chemical Society,
1899, President British Society of Chemical Industry,
1899–1900, President Chemists' Club,
1900, Sc.D. University of Oxford.

MINUTE ADOPTED BY THE FACULTY OF PURE SCIENCE

MAY 20, 1910

At the close of the present academic year two of our most distinguished colleagues retire from active service in the University. Both have been members of this Faculty since its organization. One of them received his appointment in 1860 and the other in 1864. One will finish this year forty-six years of service and the other the unusual term of half a century in this University. In each case, in addition to the charge of an important department of instruction, each has served as a member of the University Council, and each has been the dean of an important faculty for a long term of years, and each has brought to the discharge of these many duties constructive and executive ability and untiring and devoted service of the highest order. These notable men have left strong and lasting impressions on the traditions and policy of this institution, and the work that they have done will live after them as long as Columbia University itself shall continue. Their reputation and achievements will constitute a precious legacy and treasured remembrance, to which we and our successors will point with pride and from which we and they will long derive inspiration and encouragement. In both cases they are teachers of singular and unusual ability and have achieved marked success in class and lecture room, and have won the esteem and devotion of thousands of students, and the respect and admiration of their colleagues. The retirement of these two great teachers from the University is a loss that can not be measured, and creates vacancies that can not be filled. The memory of their many years of faithful and devoted service, and the inspiration which we personally have gained from their example, and from our intimate association with them, will long remain to us precious memories.

Professor John Howard Van Amringe and Professor Charles Frederick Chandler, your colleagues here assembled wish you many years of happiness, of prosperity and of comfort. May you find congenial fields in which to exercise your splendid equipment for effective work, and with undiminished power long continue to give to us and to others the benefit of your wide experience and your sane judgment, and extend still more and more your field of useful service, and add year by year to your already large circle of loving and devoted friends, among whom you may count always your colleagues in Columbia University.



PORTRAIT OF DR. CHANDLER
Painted by John W. Alexander

CHARLES FREDERICK CHANDLER

It is no reflection upon Professor Charles Frederick Chandler's teaching ability to say that many of his former students are able to recall his stories although they have long since forgotten his formulas. Dr. Chandler is not to blame for the memories of those who listened to his lectures. But he must shoulder the responsibility for the reputation that has grown up around the name of "Charlie" Chandler in the last forty-six years—a reputation for being the best story-teller in Columbia's faculty. When he arose to speak to some five hundred graduates who gathered in the Waldorf-Astoria on April second some of his hearers were amused when he began:

"I've been lying awake nights thinking what to say to you. I really don't know what to say. After talking to you for forty-six years, it seems as though it were your turn to do the talking and mine to listen."

"Why don't you tell us a story?" remarked one of the diners who was too far away to be heard by the guest of the evening. Which goes to show that Dr. Chandler's stories were always worth remembering. He tells them to the present-day undergraduates in much the same form that he told them to the students of the seventies and eighties. Like the country preacher, he seems to have made use of the proverbial barrel. Let a verdant A.B. of 1910 approach some gray-haired member of the Early Eighties and tell him one of the jokes that Chandler "cracked" last year, and the chances are that he will be rewarded with: "Why, Charlie Chandler used to get that off on us back in '81."

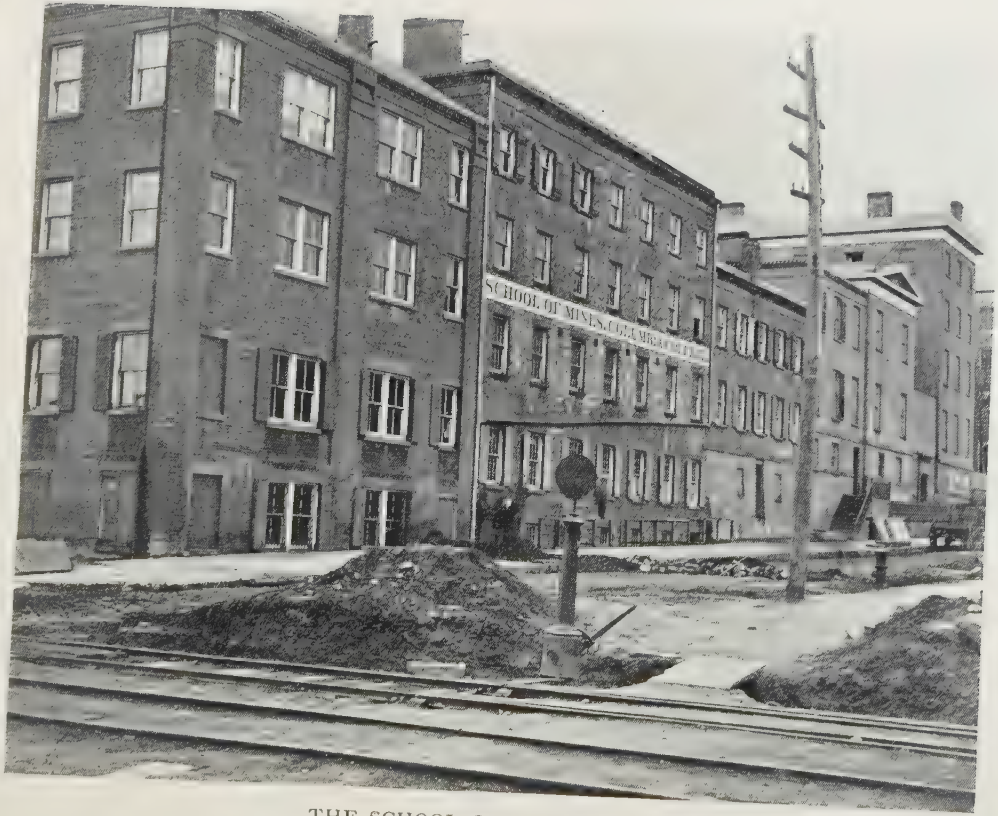
Although not a tall man, there is a good deal of the New England Yankee about Dr. Chandler. He is rather slight of build, and his features might be characterized in a general way as angular. He looks fully ten years younger than he is—seventy-four. There is an alertness in his manner that many a younger man has lost. He is very much the same when he lectures to a roomful of students as when he is talking with a visitor at home. His clear gray eyes twinkle as he talks and there is the faintest suggestion of a smile about the mouth, which not even a drooping gray moustache can hide completely. On first meeting, you would be more than likely to form the impression that Dr. Chandler would be a hard man to feaze. And he is.

His decision in regard to subway air is still fresh in many minds. With the opening of New York's underground transit system, there was a great hue and cry against its bad air. At the request of the Health Department, Dr. Chandler made a series of experiments to find out what was wrong. He ended by giving subway air a clean bill of health. He took samples of air from each platform along the route, and compared them to samples of air taken from the street. They were found to be practically the same in respect to the proportion of oxygen and carbon dioxide they contained. Dr. Chandler was the first to come forward as a defender of subway air and to back up his statement with proof.

Another of his favorite themes is Croton water. He usually devotes one entire lecture to it. For an hour he will tell a class all about the microbes that lurk in the water they drink, and then at the end of the lecture he will seize a pitcher of Croton, pour out a glassful, and drink it before the whole class.

In everything he does there is scientific method. His library at his home in East Fifty-fourth street is a storehouse of scientific data. Mention almost any important discovery or scientific investigation, and he will place his hand on the book or the drawer which tells all about it. Almost every freshman class has seen him produce a little yellow pad from his vest pocket in the course of his lectures. "I always carry this with me, gentlemen," he will say. "Whenever an idea occurs to me during the day, I make a note of it on this pad. Then at the end of the day I take my notes and put them away, so that I don't have to keep a lot of details in my mind all the time."

Dr. Chandler was born in Lancaster, Mass., December 6, 1836. His father, Charles Chandler, was a merchant of New Bedford. His maternal grandfather was John Whitney, a Boston merchant, and his grandmother was a daughter of John Slack, who fought at Lexington. The Chandler family, in fact, has been traced as far back as William Chandler and his wife, Annie, who came over from England in 1637 and settled in Roxbury, Mass. It was in the home



THE SCHOOL OF MINES IN 1866

of his grandfather, Nathaniel Chandler, that Charles Frederick Chandler was born.

He attended school in Lancaster and New Bedford, and spent his vacations hunting chiastolites and other minerals and listening to lectures by Louis Agassiz in the town lyceum. Apparently his interest in scientific subjects dates back to boyhood, for he turned his workshop in the attic into a laboratory.

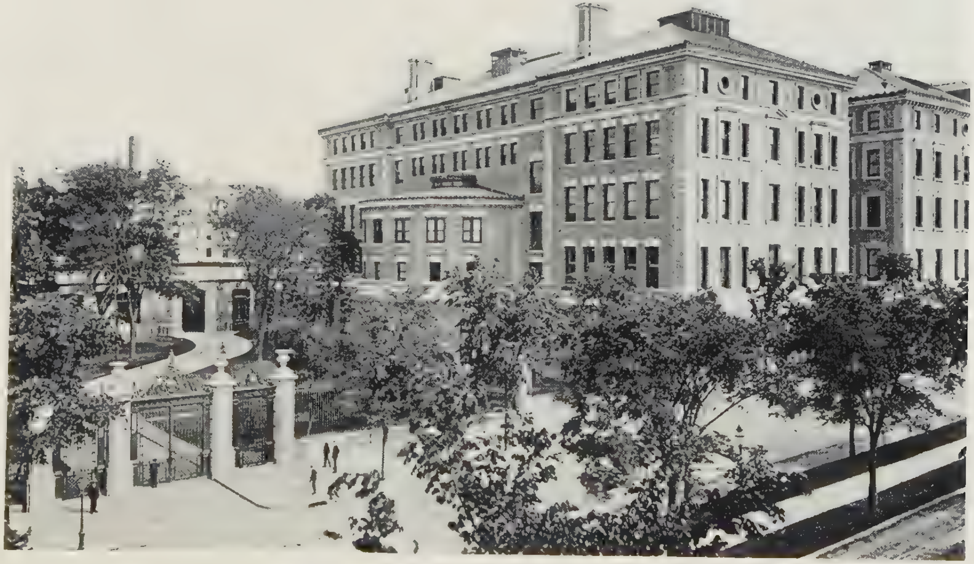
After studying in the Lawrence Scientific School, where he received further instruction from Professor Agassiz, he went abroad and took courses in the Universities of Berlin and Göttingen, his teachers in chemistry having been Horsford, Wohler and Heinrich Rose. Through the influence of Wohler and his friend, Professor Joy, he obtained the position of private assistant to Rose during the year spent in Berlin, in whose laboratory his only companion, besides Rose and his lecture assistant, Oesten, was the afterwards famous Nils Erick Nordenskjold, the arctic explorer. In physics he studied with Weber, Dove and Magnus; in mineralogy he attended the lectures of Von Walterhausen in Göttingen and of Gustav Rose in Berlin. In 1856 he was awarded the degrees of master of arts and doctor of philosophy by the former institution. An old custom at Göttingen provides that the university shall confer for a second time the doctor's degree upon the fiftieth anniversary on those who have received it, and so, in 1906, Dr. Chandler received a second parchment, announcing that he was again pronounced a doctor of philosophy.

Soon after Chandler returned to this country (January, 1857), he accepted the position of chemical assistant at Union College, Schenectady, in the newly established laboratory under his friend, Professor Charles A. Joy. In April of the same year Professor Joy was called to Columbia College and Chandler succeeded him at Union, lecturing to one hundred and fifty seniors, most of whom exceeded him in years. Chandler remained at Union College for more than seven years in charge of the laboratory, and lecturing to the college classes on general and agricultural chemistry, mineralogy and geology. In 1864 he joined the Columbia faculty, his colleagues being Professor Egleston and General Vinton, and together they planned the establishment of the Columbia School of Mines.

This School of Mines project was not generally regarded as very promising, but the three professors were willing to begin without salaries. George T. Strong, William E. Dodge, Jr., and several others furnished about $3,000 to equip the laboratory. A fine cabinet of minerals was donated by the Hon. Gouverneur Kemble, and President Barnard, Dr. Torrey, and other trustees of the College encouraged the enterprise in every possible way. Some vacant rooms in the basement of the College were assigned for laboratories. Provision was made for twelve students, but twenty-four came the first day. The success of the School of Mines was remarkable. During the entire winter the carpenters and gas-fitters were constantly at work erecting new tables for additional applicants, and the number of pupils reached forty-seven. During the first vacation a large four-story building was placed at the disposition of the School, with funds for the equipment of laboratories and cabinets. Accommodations were arranged for seventy-two pupils. During the second year the School was thronged; eighty-nine students were in attendance. The success of the new School seemed so well assured, that the trustees arranged to place it on a substantial basis as a coördinate department of the College. Professor J. S. Newberry was called to the chair of geology, relieving Professor Chandler of this subject, and a full faculty of professors and assistants was established. A new building was erected, and equipped with laboratory accommodations for 150 pupils.

This School continued to prosper and was from time to time expanded by the establishment of new courses of professional study, until it became one of the most important schools of applied science in the country and acquired an international reputation. Professor Chandler was made dean of the faculty at the beginning, and was the executive officer of the School of Mines for thirty-three years. He resigned in 1897, when the University was removed to its new site. During the long period of his connection with Columbia, Professor Chandler has lectured upon all branches of chemistry—theoretical, analytical, and applied. During the most recent period he lectured upon general and industrial chemistry, the other branches being taught by his colleagues and assistants.

The assay department was an especial hobby of Professor



HAVEMEYER HALL
From Broadway

Chandler during the earlier years of the School of Mines, and with the aid of his successive assistants, Miller, Day, Blossom, Ricketts, Miller and Hall, he has made it the most complete of its kind to be found anywhere. To facilitate the work of assaying gold and silver ores and to insure accuracy in calculating the results, Professor Chandler devised in 1866 the system of assay weights now in general use by all assayers.

Havemeyer Hall was provided, upon the suggestion of Professor Chandler, by the Havemeyer family of New York. Preliminary to perfecting the plans of this remarkably complete institution, Professor Chandler visited and inspected every laboratory of consequence in Europe. The chemical museum, which is the personal creation of Dr. Chandler, is the most complete museum of the kind in the world, and it is unique. It gives the visitor some idea of the extent to which the affairs of man depend upon the science of chemistry.

When Professor Chandler first came to New York, he was asked to render assistance in the development of the College of Pharmacy. This institution was then occupying a single room in the old University Building, on Washington Square, and numbered about thirty students. Three evenings a week all winter Professor Chandler lectured there year after year. The active exertions of the faculty and the trustees, and the interest manifested by the New York druggists, have built up from this small beginning a flourishing school of several hundred pupils, which is able now to own a fine building, with laboratory and lecture halls.

Another educational institution in which Professor Chandler's interest was enlisted soon after he became a resident of New York is the College of Physicians and Surgeons. He accepted the adjunct professorship of chemistry under Professor St. John, and on the death of that instructor Professor Chandler succeeded to the chair of chemistry and medical jurisprudence, lecturing on physics and chemistry from five to six o'clock each afternoon. Here his voice was always raised in favor of a more exacting system of medical education, and it was influential in securing the present four-year course. Professor Chandler resigned his chair in the College of Physicians and Surgeons in 1897.

Professor Chandler's work in connection with the New York Board of Health contributed a noteworthy chapter to local history. In 1866 he was appointed chemist to the Metropolitan Board of Health, a position which he held until 1873, when he was appointed president by Mayor Havemeyer. He was reappointed president of the board by Mayor Ely, and served in that capacity until the middle of 1884. As chemist to the board he made investigations in the matters of dangerous kerosene oil, the gas nuisance, the water supply of the city, the milk supply, adulterated liquors, poisonous cosmetics, offensive trades, etc. As president he started and directed many important reforms. Chief among these reforms were the removal of stalls around Washington, Fulton, and Centre Markets; the abatement of the sludge oil nuisance, the regulation of slaughter houses, cattle driving and offensive trades; the construction of tenement houses, the introduction of a proper system of plumbing and house drainage, the establishment of the summer corps of visiting physicians, and the proper care of contagious diseases in special hospitals. While active in local works, Professor Chandler was influential in securing the establishment of the New York State Board of Health, and for three years he was a member of the board, and chairman of the sanitary committee.

It was in 1873, shortly after he became president of the board, that Dr. Chandler led his famous raid upon the stalls of Washington Market, to which reference has just been made. The market had been allowed to spread itself over the sidewalks and even into the streets, until it barred all traffic in the neighborhood. Dr. Chandler got permission from the board to put Washington Market in order; but the marketmen were active, and on the very same day took steps to obtain an injunction restraining the health authorities from carrying out their plan. That evening Dr. Chandler got wind of their plan to checkmate him. He realized that bright and early on the following morning lawyers for the marketmen would appear in court to get their injunction, and there was a possibility that the judge was friendly and would give them what they wanted. He realized also that if he ever expected to clean up Washington Market, it must be cleaned up then or never. Those were not the days of the telephone, but Chandler lost no time in getting into communication with a contractor who had done work for him before.

"How much will you charge to tear down the buildings in the streets around Washington Market?" asked Chandler.

"Twenty-five hundred dollars."

The law provided that all contracts of $1,000 or more for city work should be advertised for bidders, but there were ways of getting around the statute.

"Well, I'll pay you $999 for tearing the buildings down, and another $999 to some one else for carting the rubbish away," said Chandler. "How many men can you give me at once?"

"One hundred and fifty, some of them carpenters and the rest laborers."

"Bring them along."

The police commissioner—they called him president of the board of police then—was also a member of the health board, so it was comparatively easy for Dr. Chandler to requisition 350 policemen and a corps of surgeons to help him out. Before midnight the army of invasion was ready, and with Chandler at its head it marched down upon Washington Market. With saw and pick-axe and shovel the wreckers set to work in the dark, while the police formed lines at the street corners to keep the crowds back. By daybreak the ramshackle structures had been levelled to the street, the débris carted away to the corporation yards, and the pavements, which had not seen the light of day for forty years, swept clean. Marketmen who arrived to open their shops hardly recognized the place. When court opened a few hours later the injunction seekers were on hand to lay their case before the judge. But they were soon told of what had happened over night, and decided not to submit their petition.

Present-day reformers who find it hard to improve conditions because of popular prejudice would do well to study Dr. Chandler's methods on another occasion. A year after the Washington Market incident, the legislature directed the board of health to assume control over contagious diseases. The city was overrun with smallpox cases, and Chandler and his colleague, Dr. Stephen Smith, determined to do everything they could to stamp out the disease. But in this they were opposed by two strong popular prejudices. People in those days were skeptical about the benefits of vaccination; they hadn't much faith in it. Secondly, there was an intense dread of Blackwell's Island—the home of the city's smallpox hospital—especially among the poor. Hundreds of smallpox patients on the East Side were concealed from the health officers simply because of their fear of being "sent to the island."

With the first of these prejudices, Chandler and Smith dealt diplomatically. They did not seek to have a law passed providing for universal vaccination, for they knew that that would stir up all sorts of controversy. Instead, they approached the board of education and induced it to pass a rule insisting upon the vaccination of every child in the public schools. It will readily be seen what this meant. The law demanded that all children should go to school. Thus, in order to comply with the law, the rising generation simply had to be vaccinated whether their parents liked it or not.

They grappled no less skillfully with the second objection. The name of the hospital on Blackwell's Island was first changed to Riverside Hospital—a better sounding name, undoubtedly, than smallpox hospital. Then Dr. Chandler and Dr. Stephen Smith went to the Arch-bishop and besought him to provide a corps of Sisters of Charity to take charge of the work over there. They were to act as nurses under the direction of a competent resident physician. To this he agreed. Up to that time much of the nursing in the institution had been left to women who had been sent to the workhouse at the other end of the island. Dr. Chandler also laid in a large supply of colored prints, depicting religious and semi-religious subjects, with which he decorated the walls of the institution.

But the chief reform was in the method of transportation to the hospital. They did away with the Black Maria, and substituted in its place a fine, rubber-tired coupé, drawn by a pair of high-stepping black horses. There was no initial or monogram on the door to suggest that the carriage was city property. The outfit might have passed down Fifth Avenue any sunny afternoon without causing comment. On the box sat a uniformed coachman, in plum-colored livery, and at his side a groom. When this conveyance appeared in the East Side it made a sensation. The man or woman who could

THE CENTENNIAL OF CHEMISTRY
AT THE GRAVE OF PRIESTLEY, NORTHUMBERLAND, PA., 1874
Dr. Chandler is the seventh from the left in the second row

boast that it had called at his or her door was looked up to and admired by all the neighbors. There was no more rushing to cover among smallpox patients when the two black chargers came down the street. No, indeed; everybody who had the disease in its mildest form, was only too eager to take a ride. In a few months the epidemic was practically wiped out. There had been 3000 cases and 1200 deaths.

To name every scientific body with which Dr. Chandler has been connected would sound much like calling the roll of the leading societies of the country. He took part, as president, in the celebration of the centennial of Priestley's discovery of oxygen at Priestley's home in Northumberland County, Pa., in 1874, and it was out of that celebration that the American Chemical Society, of which he was twice elected president and several times vice-president, grew. Perhaps the most distinguished honor ever paid him was his election in 1899 to the presidency of the Society of Chemical Industry, an international body founded in Great Britain, where the greater part of its members live, he being the first American to receive such an honor. He was one of the scientists appointed by President Arthur to serve on a commission to investigate the hog industry, and in 1884 was the official delegate from the United States to the Health Exposition in London and the International Medical Congress at Copenhagen. When William C. Whitney was secretary of the navy, Dr. Chandler was chosen to be a member of a commission to investigate the subject of timber preservation, and later he served on commissions to investigate the manufacture of glucose, denaturalization of alcohol, and the waterproofing of fractional currency and bank notes. In the performance of his duty along these various lines, Dr. Chandler displayed marked ability and judgment.

Dr. Chandler also served for two years as president of the Chemists' Club of New York, and he is one of the scientific directors of the New York Botanical Garden. For several years he was president of the State Charities Aid Association, and he took an active part in securing State care for the indigent insane. In all of his public efforts Professor Chandler has been actuated by a high sense of his duty to humanity. He has been not only progressive in his public-spiritedness, but philanthropic as well. Some years ago he was president of the Street Cleaning Improvement Society, and performed an effective part in securing the reorganization of the Street Cleaning Department. In recent years Professor Chandler's services have been frequently required by the great corporations that control processes of manufacture in which a thorough knowledge of chemistry is required. Professor Chandler not only possesses this knowledge, but has also an alert mind filled with original and valuable ideas. He has been called the highest authority in this country on industrial chemistry. While other able and eminent chemists have their single specialties, Professor Chandler is a specialist in all branches. He is an expert in the matter of sugar refining, of petroleum refining, of calico printing, and in the manufacture of gas. He has served as chemist to the Croton Aqueduct, the New York Gas Company, and the New York Steam Sugar Refining Company. He has always taken a prominent part in the pure food agitation, his advice being sought by the National Board of Trade, who were interested in the passage of laws forbidding the adulteration of food and drugs nearly thirty years ago. He was the chemical editor of Johnson's Encyclopædia, and with his brother, Professor W. H. Chandler, established and edited for seven years The American Chemist. He has also published numerous papers on chemistry in scientific periodicals.

In 1873 Dr. Chandler received the degree of M.D. from the University of New York and the degree of LL.D. from Union College, and in 1900 the University of Oxford conferred upon him the honorary degree of doctor of science.

Among the more important organizations with which he is connected are The National Academy of Sciences, American Association for the Advancement of Science, American Institute of Mining Engineers, American Philosophical Society, New York Chemists' Club, New York Academy of Sciences, and the English, German and French chemical societies.

TESTIMONIAL DINNER

TO

DR. CHARLES FREDERICK CHANDLER

TENDERED BY HIS FORMER STUDENTS AND
ASSOCIATES IN TOKEN OF THEIR
RESPECT AND AFFECTION

THE WALDORF–ASTORIA

APRIL SECOND
AT HALF PAST SIX O'CLOCK
ONE THOUSAND NINE HUNDRED AND TEN

A testimonial dinner to Dr. Charles Frederick Chandler will be given at the Waldorf-Astoria at six-thirty on the evening of April second, to permit his former students and associates to express, before his retirement, their appreciation of his forty-six years of service to Columbia University, and his lifetime of devotion to the cause of education and science.

It is certain that every alumnus who has felt Dr. Chandler's influence will welcome the opportunity to testify his love by his presence at the dinner, and thus participate in paying this crowning honor to the Professor's long and distinguished career.

The arrangements have been entrusted to a committee representing every department and school of the University with which Dr. Chandler has been connected, and it is intended and desired that as many as possible of his former students and associates be present. . . .

RECEPTION COMMITTEE

SCIENCE

John Adams Church, '67
Frederick Augustus Schermerhorn, '68
Henry Smith Munroe, '69
Stuart Lindsley, '70
S. Anthony Goldschmidt, '71
Thomas O'Connor Sloane, '72
John Townsend Williams, '73
Eben Erskine Olcott, '74
Frank Vanderpoel, '75
E. E. Sage, '76
Walter Edwards Hildreth, '77
Benjamin Bowden Lawrence, '78
Ralph Edward Mayer, '79
Thomas Haight Leggett, '79
Albert Peter Hallock, '80
Thomas B. Stearns, '81
William Barclay Parsons, '82
John Henry Banks, '83
William Fellowes Morgan, '84
Arthur Smith Dwight, '85
Ernst Joseph Lederle, '86
William J. Schieffelin, '87
Lancaster Morgan, '88
Edwin A. Harris, '89
Richard T. Wainwright, '90
Rolla B. Watson, '91
Parker C. McIlhiney, '92
Arthur C. Langmuir, '93
Marston T. Bogert, '94
Charles S. Herzig, '95
Arthur Metzger, '96
E. J. Riederer, '97
Watson Vredenburgh, Jr., '98
Ralph G. Wright, '99
Dawson J. Burns, '00
John Benjamin Wolff, '01
Harold P. Daniels, '02
Alonzo B. Bradley, '03
Robert A. W. Carleton, '04
W. E. F. Bradley, '05
John Robertson Hoyt, '06
Arthur Aigeltinger, '07
Major Lee White, '08
Henry W. Remington, Jr., '09

COLLEGE

William H. Butterworth, '64
Lenox Smith, '65
Theodore H. McNamee, '66
George G. De Witt, '67
Benjamin H. Campbell, '68
David B. Ogden, '69
Seth Low, '70
R. Fulton Cutting, '71
Robert C. Dorsett, '72
W. Seton Gordon, '73
S. Albert Reed, '74
Edward D. Perry, '75
I. N. Seligman, '76
John B. Pine, '77
T. J. Oakley Rhinelander, '78
John H. Mulchahey, '79
George Engs Blackwell, '80
Charles Mandred Lum, '81
Girard Romaine, '82
John Kinsey Gore, '83
Ambrose Dyer Henry, '84
Charles Halsted Mapes, '85
John Vernou Bouvier, '86
Samuel Sloan, '87
William Robinson Powell, '88
Willard Vinton King, '89
Frederic René Coudert, '90
William Chesebrough Cammann, '91
Thomas Ludlow Chrystie, '92
Alanson Tuthill Briggs, '93
Joseph Peter Grace, '94
Samuel William Egner, Jr., '95
Walter Conwell Shoup, '96
Arthur Lockett Marvin, '97
John Waring Parks, '98

Rev. Hugh Birckhead, '99
Morton G. Bogue, '00
Robert Hooper White, '01
Charles Anderson Dana, '02
Clinton Gilbert Abbott, '03
Ernest Stauffen, Jr., '04
Duncan Hodge Browne, '05
Frank Diehl Fackenthal, '06
William G. Palmer, '07
Foster Ware, '08
James C. Mackenzie, Jr., '09

Medicine

Robert Abbe, '74
Francis Huber, '77
George Thomas Jackson, '78
Frank W. Jackson, '79
M. Allen Starr, '80
Henry W. Berg, '81
Walter B. James, '83
Bern Budd Gallaudet, '84
Alexander B. Johnson, '85
Edwin Bradford Cragin, '86
William K. Draper, '88
Pearce Bailey, '89
David Bovaird, '92
Arthur M. Shrady, '93
Frank R. Oastler, '94
Theodore C. Janeway, '95

Pharmacy

Ewen McIntyre, '47
Gustavus Ramsperger
Thomas F. Main, '71
Charles Holzhauer, '73
Adolph Henning, '76
B. G. Amend
Max J. Breitenbach, '77
William H. Ebbitt, '79
George B. Wray, '82
Charles S. Erb, '86
George C. Diekman, '88
Hieronymus A. Herold, '94
Leo W. Geisler, '95
Dr. Curt P. Wimmer, '02

Architecture

M. J. O'Connor, '84
Henry Snyder Kissam, '86
Edward Pearce Casey, '88
Arthur A. Stoughton, '90
Charles Peck Warren, '92
Kenneth M. Murchison, '94
F. Livingston Pell, '95

TESTIMONIAL TO DR. CHARLES FREDERICK CHANDLER

After forty-six years of service, Dr. Chandler retires from active work at Columbia. In recognition of his disinterested devotion, and as a token of their love and regard, his old students propose to found a lectureship dedicated to him. The plan is to place in the hands of the Trustees of Columbia a fund, the income of which is to be used for the expenses of one or more lectures each year on chemistry, or its applications. It is also proposed to present a medal to Dr. Chandler at the dinner to be given him April second, a replica of which will be given to each lecturer.

All of Dr. Chandler's students will desire to contribute to this fund. We, therefore, call on you to help us to reach all you may know. Appeal to them at once, and send their names and addresses to the Committee.

It is the desire of the Committee to give Dr. Chandler, together with the medal, the signatures of all the subscribers to the fund. Please, therefore, write your name, school and class, and nothing else, on the enclosed card and return it with your subscription, be it large or small.

As the time is limited, it is urgently requested that the subscriptions be sent as soon as possible to Mr. William Curtis Demorest, 60 Liberty Street, New York, treasurer of the Committee.

PIERRE DE PEYSTER RICKETTS, '71 Mines
Chairman
ROBERT CLIFFORD CORNELL, '74 Arts
TIMOTHY MATLACK CHEESMAN, '74 Arts, P. and S.
GEORGE CAMERON STONE, '79 Mines
CHARLES PIKE SAWYER, '81 Mines
WILLIAM CURTIS DEMOREST, '81 Arts
ARTHUR HENRY ELLIOTT, '81 Mines, Coll. Pharm.
CHARLES BUXTON GOING, '82 Mines
GEORGES RENAULT, '83 Mines
Committee

Office of the Committee:
60 LIBERTY STREET
NEW YORK

THE DINNER

Graduates of the College, and of the schools of applied science, fine arts, pure science, law, medicine, and pharmacy of Columbia University gathered in the Waldorf-Astoria, to the number of five hundred, in honor of Charles Frederick Chandler, retiring Mitchill professor of chemistry in Columbia University on the evening of April second. Like the testimonial to Dean Van Amringe of the College a year earlier, the dinner was to celebrate a long service in connection with the University, but unlike the 1909 occasion it commemorated the retirement of Dr. Chandler, while the retirement of Dean Van Amringe was unexpected when it came a few weeks later.

One of the features of the dinner was the seating of the men on time, for promptly at seven o'clock the Upper Eighties, a newly organized alumni association, preceded by its corps of buglers, and headed by its president, Charles Halsted Mapes, '85 Arts, led the procession into the big banquet hall, followed by the Early Eighties and the Society of Older Graduates, and then by the rest of the alumni. When all were seated at their places, the procession of guests followed, led by the fife and drum corps of the Early Eighties, behind it being six members of different schools of the University, each carrying his emblem as follows: Arts, Mines, Chemistry, Architecture, Medicine, and Pharmacy. Then came the guest of the evening and then President Nicholas Murray Butler, Dean John Howard Van Amringe of the College, ex-President Seth Low, Dean Frederick Arthur Goetze of the Schools of Applied Science, A. C. Humphreys, President of Stevens Institute, Dean Samuel W. Lambert of the College of Physicians and Surgeons, E. P. North, Samuel W. Fairchild, of the School of Pharmacy, and the Rev. E. M. Stires, each escorted by a member of the committee.

During the dinner a number of songs new and old were sung by the alumni, led by Rudolf Tombo, Jr., and just before the sherbet the dinner was interrupted by C. P. Sawyer, who read from one of the boxes an appreciation in blank verse of Dr. Chandler, written by F. G. Wiechmann, '81 Mines, which was followed by the singing by a quartet from another box, of a song contributed by Dr. Leonard Waldo of the class of '75 Mines.

Then the fife and drum corps was brought into requisition and a procession came into the room. At the head was Benjamin Bowden Lawrence, '78 Mines, carrying a large tray on which were four dozen golf balls, a "goose-neck" putter and a practical illustration of the "nineteenth hole." Behind him came George C. Stone, carrying a large birthday cake with fifty lighted candles on it, inscribed "Baby Cornwall," and then Charles Allen Reed, '83 Mines, carrying a large azalea plant. The azalea was presented to a member of the class of '83, Thomas J. Brereton. The cake was given to H. C. Cornwall, youngest member of the "Old Guard," who was that night celebrating his fiftieth birthday.

Mr. Lawrence then presented President Butler with the golf paraphernalia, and in a few well chosen remarks he congratulated the President upon the fact that this was his birthday, to which Dr. Butler responded in a short speech, that created much laughter and enthusiasm.

Dr. P. de P. Ricketts, as toastmaster, introduced the guest of the evening, Dr. Chandler, and the speakers, President Butler, Dean Lambert, Dean Van Amringe, also Mr. Going, who read a poem. Dr. Ricketts also announced that a fund had been raised by the alumni, to be used in a manner that would forever connect the name of Dr. Chandler with Columbia University, and that this object would be accomplished by founding a lectureship to be known as the Charles Frederick Chandler Foundation. On behalf of the alumni the chairman presented Dr. Chandler with a gold medal emblematic of the lectureship, a replica of which, in gold, will be given to each lecturer. The signatures of all the subscribers to the fund assembled on cards in an album, bound in the University colors, was also given to Dr. Chandler.

VERSES BY DR. F. G. WIECHMANN, '81 S

Worn with the toil of years,
The burden of hopes unfulfilled,
Yet ever hopeful,
The alchemist of old, watching beside

The glowing embers of his fire,
Would trace with eager, trembling hand
In musty tomes, the mystic signs
And symbols that promised to reveal
To him who sought but earnestly enough,
The power to light the ever-burning lamp,
The power to turn to gold whate'er
His alkahest should touch,
Aye, more than this—the power
To bid defiance unto death!
Thus, while he dreamed and searched,
The years sped on, the season's round:
Spring's gladness, summer's glory,
Autumn's fulfillment, winter's storms,
All, all, passed on unheeded.
Men lived and died,
Empires arose and fell—
But, what were these to him
Who hoped to find the virgin earth,
Who dreamed therefrom to gain the spirits
Rare of Mercury and Sulphur,
To blend with these the adept's gold,
And hoped to see arise therefrom
The raven's head, black as the night;
Then, black paled to white,
The swan—by proper spell and deed,
Transformed to sunset gold,
At last to flame to crystal,
Bright, sparkling, ruby-red—
The priceless gem, the treasure sought!
Thus, ever on and on,
Unheeding of the world, its crying needs,
Brooding in silence, in solitude austere,
Lured by the glitter of the phantom gold,
He toiled—and toiled in vain
Unto the end—the dreamless end.

* * *

Not so the one we honor here tonight,
In the alembic of his soul.
He mingled knowledge, wisdom,
Good fellowship and cheer,
And then distilled therefrom the crystal dew,

The true elixir, draught of life;
Filled to the brim the jewelled cup,
The chalice, and offered it to us,
To us, athirst for knowledge of the magic art
Which bends to our will
The spirit of the fire, earth and air;
Which tempts us on to fathom
Nature's mysteries;
Which bids the stars reveal
The secret of their birth;
Which lures and gleans
From the reluctant rock
The everlasting light,
Therein imprisoned since Creation's dawn;
The art which teaches fields to yield
In greater bounteousness
Their store of golden grain,
Which charms the colors of the rainbow's glow
From earth-born blackness,
And, from the self-same source,
Brings forth in spotless purity,
Those harbingers of mercy which bestow
On weary mortals painless sleep
And longed for peace;
The art which bids us seek and trace
With lowly, loving, reverent awe,
Amid the everchanging whirl,
The ever changeless Law.

* * *

Our Master Alchemist!

All who are gathered here tonight
To do him homage:
Youth with gay laughter in his eyes,
Strong, earnest manhood,
And those whose brow
The frost of Time has tinged with white,
All—one and all, pledge him
Anew tonight
Their old-time faith and friendship!
What if a tear, unbidden, veil
For one brief moment's space

The kindly glance,
The heart's unspoken word,
It only adds the rainbow's gleam
And glory, to our message
Of loyalty and love—to him, for him,
Our Master Alchemist!

CHANDLER OLDER GRADUATE SONG

By Dr. Leonard Waldo, '75 S

Air: *"Amici"*

Long ago we trekked together
  O'er this dear old town;
Azure skies or stormy weather,
  Mines, we craved thy crown!

Chorus: Chandler! Chandler! Vir bonus!
  For thee we raise our song;
You, who, loved and trusted by us,
  Built the Mines so strong.

Thou didst make our great redemption,
  Set our reason free;
Melting rock and surging ocean,
  Boundless mystery.
Chorus

Whilst with thee we quizzed Dame Nature
  Questions most complete,
Storied life with smiles surrounding
  Held us at thy feet.
Chorus

Quickening courage with true Science,
  Thou didst always give
City's Death a grim defiance,
  So the poor might live.
Chorus

Friends we were and friends forever,
  No preceptor thou;
To the evening gun we listen,
  Ranks unbroken now.
Chorus

INTRODUCTORY REMARKS OF THE CHAIRMAN, DR. PIERRE DE PEYSTER RICKETTS

Sons and friends of Columbia: I act as your toastmaster this evening with mingled feelings of diffidence and pleasure—diffidence, because I hesitate to speak in the presence of such a great and distinguished gathering; pleasure, because it gives me the opportunity to publicly express my esteem, high regard and affection, for the friend of almost a lifetime.

A little more than forty-six years ago, the School of Mines commenced its career on the old block at Forty-ninth street,. By reason of the intrinsic merit of its plan of organization, its corps of devoted instructors, and the fostering care of old Columbia, the school grew. Its lecture courses became departments, its departments schools, until the School of Mines and its associated schools of science stand today on Morningside Heights a great integral part of the leading University in the land,—a radiant jewel in the diadem of this imperial city.

In the band of devoted teachers in the School of Mines so familiar to the older students of Columbia, there was a young man, who, by reason of his thorough training and professional attainments, his sterling character and his winning personality, has become one of the great supporting pillars of the structure that constitutes the real University. Now he, our loved instructor, whom we have gathered here tonight to honor, retires from his labors to enjoy the rest he has so well earned. He needs no introduction to you; you all know him. Fellow alumni, I give you the first toast of the evening—Long life, health, happiness and prosperity to our teacher, colleague and friend, *Dr. Charles Frederick Chandler.*

SPEECH OF PROFESSOR CHARLES F. CHANDLER

My Boys!—Was ever a man so rich! I look around this room and almost every person my eyes fall upon is one of *my boys.* You have sat in my lecture-room for two years, three years, four years, and there are men here who after sitting in my lecture-room four years came down to the Medical School and actually took the

DR. CHANDLER IN 1903

same lectures over again from five to six o'clock, after a hard day's work in lecture-rooms and dissecting-room. I said to them: "What are you doing here? You had all this up at 49th Street. You passed your examinations successfully." They told me that they could not afford to stay away. Is there any greater reward than that? Is there anything that can pay me more for anything that I have ever done in Columbia than to have such an audience of my students get together tonight to do me honor? Can I find words to make any kind of an ordinary speech on an occasion like this? Impossible. I have been lying awake hours thinking what I should say that would be adequate on this occasion. This is the second dinner given in my honor and there are more to come. I have been talking to pupils ever since 1857. There is one of my old students sitting here who attended my first lecture at Union College in 1857. Should I be expected to talk any longer? You should do the talking, not I. Yet I think there are a few things I might say with propriety.

You were not all in the first class of the School of Mines, some of you came later, much later, and perhaps many of you are hardly familiar with the circumstances of that early beginning. I feel that, when I have to address an audience composed of graduates of Columbia, especially an audience including so many former students of the School of Mines, it is my duty to remind them of what they owe to "Tommy Rocks," as he was called by all his pupils. There is no probability that there would have been a School of Mines at Columbia University if Professor Egleston had not proposed it. He was a Yale graduate, and later a graduate of the School of Mines in Paris. Returning home to New York in 1863, it occurred to him that there should be a School of Mines in the United States, and in New York City. He sat down and worked out the plan, and that plan was so well conceived that we have followed it ever since. We have elaborated it, but we have never changed it. This is the secret of the success of the School of Mines of Columbia University, and of all the cognate schools that have been developed in connection with it on the same lines. The principle is a very simple one. There were several scientific schools in the United States in 1864, numbering many distinguished instructors, but with the exception of two or three schools of civil engineering, none of them was particularly successful. I began my scientific training at one of them and after remaining there for a year decided to complete my professional course at a German university. The difficulty with the scientific schools of America at that time was that they were not professional. The courses in most of them differed generally from the academic course for the degree of A.B. merely in the substitution of a certain limited amount of the natural sciences, together with French and German, for the classics of the A.B. course, and even in the scientific schools which undertook to teach specialists in science there was rarely any systematic course of instruction sufficiently comprehensive to make professional scientists. Even after the special scientific schools were established, the university authorities found it difficult to get away from the idea that the scientific school must give a general education, and consequently a considerable percentage of the courses established consisted of general subjects such as rhetoric, logic, etc., most valuable subjects for a general education, but they occupied the time which should have been given to professional subjects, and in order to make room for them in the course, essential professional subjects were necessarily omitted.

Professor Egleston's idea, with which President Barnard, General Vinton and myself fully concurred, was that the course of study in the new School of Mines should be *purely* professional and that no matter how desirable a subject might be to an educated man, if it were not professional or necessary to the profession, it must be acquired outside of the new School of Mines, as we felt that we needed all the time at our disposal to give a man a thorough professional education as a mining engineer, a chemist, or as any other professional scientist. It was on this plan that the opening of the School of Mines was announced, and it is on this plan that it has been conducted for the past forty-six years, as is also true of each of the other courses of engineering under the direction of the faculty of applied science. This is the real secret of the success of Professor Egleston's plan. Our schools of mines, engineering and chemistry stand by the side of the law school and the medical school as purely professional schools.

Professor Egleston, when he had printed his plan for a School of Mines in New York City, applied to Mr. Peter Cooper with a view of having it added to the schools conducted in the Cooper Union. After Mr. Cooper had carefully studied the plan, he said to Professor Egleston: "The plan of your proposed school is diametrically opposed to the plan of the Cooper Union. I have undertaken to give to a large number of young men who are earning their own living as much practical instruction comparatively elementary and necessarily limited in amount as they can attend in the evening when their day's work is over. You, on the other hand, propose to give a comprehensive professional education to a small number of men already well qualified to receive it and who are able to devote their entire time to study." Although Mr. Cooper expressed great interest in the project he decided that it would not fit into the scheme of the Cooper Union.

Professor Egleston then approached the trustees of Columbia College and soon succeeded in interesting them in his project, although the College was at that time in no position to give the enterprise any financial support. The trustees had a few years before purchased the block of land and buildings on 49th Street and they had been called upon also to spend a large amount of money in putting the land on Fifth Avenue, which they had received from the State, into a proper condition to induce tenants to build upon it. But in 1863 the trustees consented to the making of the experiment, and while Dr. Charles King was still president, Professor Egleston was appointed professor of mineralogy and metallurgy and a general statement of the object and plan of the School of Mines and Metallurgy was issued.

Considerable doubt existed in the minds of a great many persons as to the ultimate success of such a school in the City of New York. There were no mines in the immediate neighborhood as there are at the mining schools of Freiberg, Clausthal, and at Leoben. On the other hand, the School of Mines in Paris had always been a great success and also the School of Mines in London. During the year Dr. King resigned the presidency and Dr. F. A. P. Barnard was appointed his successor.

Dr. Barnard at once manifested the greatest interest in the projected school and did everything he could to encourage its establishment, and Professor Egleston succeeded in interesting a number of gentlemen in the city who cheerfully contributed a sufficient sum of money to make a beginning. A committee of the trustees was appointed to take charge of the new School of Mines, and the contributors were appointed associates of this committee.

Lest we forget, I will read the names of the trustees at this time and those of the associates:

TRUSTEES OF COLUMBIA COLLEGE
1864–65

Hamilton Fish, LL.D., chairman, Gardiner Spring, D.D., LL.D., Samuel B. Ruggles, LL.D., William Betts, LL.D., clerk, Benjamin I. Haight, D.D., Edward Jones, Robert Ray, Gouverneur M. Ogden, treasurer, Charles King, LL.D., Henry J. Anderson, M.D., LL.D., Edward L. Beadle, M.D., George T. Strong, Mancius S. Hutton, D.D., Alexander W. Bradford, LL.D., Horatio Potter, D.D., LL.D., D.C.L., Martin Zabriskie, John Torrey, M.D., LL.D., Lewis M. Rutherfurd, Thomas De Witt, D.D., John Jacob Astor, Jr., John C. Jay, M.D., William C. Schermerhorn, Morgan Dix, D.D., and F. A. P. Barnard, D.D., LL.D., president of the College.

ORGANIZATION OF THE SCHOOL OF MINES

COMMITTEE OF THE TRUSTEES OF COLUMBIA COLLEGE

William Betts, LL.D., chairman, Edward Jones, George T. Strong, John Torrey, M.D., LL.D., Lewis M. Rutherfurd, Frederick A. P. Barnard, S.T.D., LL.D., and Hamilton Fish, LL.D.

ASSOCIATES OF THE COMMITTEE

C. R. Agnew, M.D., Geo. C. Anthon, S. W. Bridgham, Lewis L. Delafield, Franklin H. Delano, W. E. Dodge, Jr., J. P. Giraud Foster, N. Pendleton Hossack, R. L. Kennedy, Baron Osten-Sacken, Howard Potter, Temple Prime, Percy R. Pyne, James Renwick, Otis D. Swan, Lucius Tuckerman, and G. Cabot Ward.

Soon afterwards General Francis L. Vinton was appointed professor of mining engineering and Dr. Charles F. Chandler was appointed professor of chemistry. Some vacant rooms in the old building were assigned to the use of the School. Mr. Gouverneur

Kemble purchased a fine collection of minerals and presented it to the School, and laboratory tables were erected in the basement for the accommodation of twelve students.

On the fifteenth of November, 1864, the School opened and to the surprise of everyone, twenty-four students entered on the first day. They were not boys, but young men, some of them with the degrees of A.B., A.M., C.E., and they continued to come until forty-seven were enrolled during the first session. Carpenters and gas-fitters were called in, and as rapidly as they provided the necessary working tables in the laboratory, more students came in, and this continued for two or three months. Professors Egleston, Vinton and myself incurred obligations amounting to nearly six thousand dollars in providing the necessary equipment to carry on the instruction.

The members of the academic faculty promptly offered their services to enable us to give the necessary instruction, Professor Charles A. Joy dividing with me the instruction in chemistry, Professor W. G. Peck taking mechanics and mining surveying, Professor J. H. Van Amringe taking mathematics, and Professor Ogden N. Rood taking physics. In addition the following assistants were appointed: Julius Maier, Ph.D., analytical chemistry, William A. Potter, A.B., assistant in analytical chemistry, Henry B. Cornwall, A.B., assistant in general chemistry.

The students manifested the deepest interest in their work, and although the arrangements for their convenience were of the simplest character and they were obliged to put up with many hardships, they realized that everything within the means of the College was being done to facilitate their work, and they never complained. The trustees of the College took the most lively interest in the progress of the new school, and although they were obliged to borrow the money for the purpose, they contributed ten thousand dollars the first winter to pay our bills and carry us through the first year.

When the summer vacation came it was evident that something must be done to provide more satisfactory quarters for the young school. It happened that there was attached to the College buildings a large four story structure which had been used for workshops for the deaf mutes who occupied the grounds before Columbia came into possession of them and which had been leased for a wallpaper factory. As the lease happened to terminate at this time, the trustees of the College placed the building at the disposal of the School of Mines and appropriated ten thousand dollars to put it in order. In order to save money, we drew our own plans and superintended the work and were enabled to provide a large assay laboratory, qualitative laboratory, quantitative laboratory, mineralogical and metallurgical museum and drawing academy, occupying in this way the basement and the four stories above and providing accommodations for seventy-two students. Altogether, the trustees appropriated thirty thousand dollars to continue the "experiment" for a second year, the money being borrowed for this purpose.

To our surprise we had eighty-nine students during the second year and thus outgrew our accommodations. At the end of the second year it being evident that the School of Mines had come to stay, the trustees appropriated thirty thousand dollars for the erection of an additional building on Fourth Avenue, at the corner of 50th Street. Acting as our own architects, we planned with this appropriation and erected a four story building, 120 feet long and 30 feet wide. The building was not handsome, but it was admirably adapted for laboratories and museums, and was wonderfully well ventilated, which is very rarely the case with such buildings. This ventilation was accomplished by placing two vertical flues in the east and west walls of the building between every pair of windows, the lower ends of the flues opening into the laboratories, while the upper ends opened to the fresh air in the cornice. Altogether, the trustees appropriated seventy thousand dollars to the equipment and support of the school during its third year.

One of the most important events in the history of the School was the appointment at the beginning of this third year of Dr. John S. Newberry to the professorship of geology and paleontology and the acquiring at the same time of his remarkably complete collection of rocks and fossils, which was placed in the upper story of the new building. One hundred and twenty-three students were in attendance during this year. I think it is fair to say that the

[illegible] Zanetti [illegible] Metzger Hoffman Nash Uhlig Nelson [illegible]
[illegible] Jouet Thomssen [illegible]
Hall [illegible] Morgan Bogert Chandler [illegible] Sherman

DEPARTMENT OF CHEMISTRY

1910

third year terminated the experimental period in the history of the School of Mines. Since that time it has gone quietly on gaining in strength, adding new parallel courses of instruction, calling distinguished men to take charge of them, until at the present time, including the students pursuing professional courses and those taking work under the faculty of pure science for the degree of master of arts and doctor of philosophy, we now number about one thousand students in pure and applied science.

I think it may be interesting for me to call your attention to the three successive epochs in the history of Columbia which I have witnessed since coming to Columbia in 1864.

The first epoch begins with the presidency of Dr. F. A. P. Barnard in 1864. Dr. Barnard was a man of wonderful qualities and wonderful attainments. Born in Massachusetts, he graduated with high honors at Yale in 1828. He began teaching at once, first in a Hartford grammar school, then at Yale, subsequently he taught mathematics, physics and chemistry at the University of Alabama. He was then made chancellor of the University of Mississippi, where he remained until the outbreak of the Civil War. At this University he had for a fellow professor the future president of the Confederacy, Jefferson Davis. Davis offered Dr. Barnard a high position under the Confederate Government on condition that he should renounce the Union. When Dr. Barnard refused to do this, Davis was so vexed that he would not grant his friend's request for a passport through the lines. He finally reached Washington, however, where he became connected with the U. S. Coast Survey, and by reason of his long residence in the South, proved very useful to the Union Government. In 1864 he was appointed president of Columbia College. At that time there were one hundred and fifty-five students in Columbia College, which, with the law school established by Dr. Dwight in Great Jones Street, represented all there was of Columbia.

Dr. Barnard put his whole heart into the development of the College and the School of Mines, and the institution prospered under his management. Hamilton Hall was erected on Madison Avenue, the beautiful library was erected on 49th Street, a new School of Mines building was ultimately erected on Fourth Avenue, he added many distinguished instructors to the College faculties, moved the law school to 49th Street, and took a lively interest in establishing a collegiate course for women. He was one of the founders of the National Academy of Sciences, and interested himself in the development of education throughout the entire field of knowledge. He lived a life of great frugality, and on his death it was found that he had saved out of his salary over one hundred thousand dollars, which he left to Columbia University. It had been really pathetic to observe how he and Mrs. Barnard had by practising every kind of economy, denied themselves, not only luxuries, but even comforts for the purpose, as it appeared after his death, of leaving a handsome sum of money to Columbia. Their friendship was always very dear to me, and you can imagine how pleased I was when his will was read to learn that he had made me one of his executors and thus honored me with this strong mark of his friendship and confidence.

The second epoch in the history of Columbia University came with the appointment of Mr. Seth Low to the presidency of the University, and he proved a most worthy successor to Dr. Barnard. His business experience, his wide knowledge of men, and the interest he immediately began to manifest have been of the greatest advantage to the University.

The first act that I recall which interested me particularly had to do with the College of Physicians and Surgeons, which had a merely nominal connection with Columbia at that time. This medical college, like most of the other medical schools throughout the country, had begun practically as a private school. A number of distinguished physicians had come together, and without any endowment had associated themselves as a medical college, and they did the best they could with their very moderate equipment and such funds as they could afford to put into the enterprise in addition to the fees of the students. The school was regarded as one of the best in the United States. Some of the most distinguished physicians in the country had occupied chairs in the faculty and its students were recognized everywhere as among the best qualified practitioners. More than forty years ago I was invited to relieve Professor St. John of a portion of the chemical instruction in this school, and I took my place in the faculty as adjunct professor of chemistry five or six years after the establishment of the School of Mines.

I must say that I was thoroughly astonished when I became familiar with the system of instruction in the College of Physicians and Surgeons and when I compared this system with that pursued in the School of Mines: There was no examination for admission; there was no roll call at lectures; the course of instruction consisted of two annual courses of lectures of five months each; there was no examination except at the end of the period, and this was a private one, one student at a time presenting himself to the several instructors in succession; it was necessary to pass only five out of seven of the examinations to receive the degree of M.D. and begin practice.

I took frequent occasion to call the attention of my fellow professors to the contrast between the system of education practised in this and the other medical colleges throughout the country and the system practised at Columbia in educating and qualifying for practice engineers and chemists. For example, we had a very severe examination for admission; we had a roll call at every lecture; the course of instruction consisted of four years of lectures and laboratory practice of eight months each; there were semi-annual examinations, public written examinations, the entire class present; in order to get a degree the candidate was obliged to pass successfully each and every examination of the entire four years.

I beg you not to think for a moment that in making this statement I am criticizing the College of Physicians and Surgeons unfavorably. I am criticizing the system of medical education as it was practised in this country forty years ago. The same system prevailed in all the other medical colleges in the country; the College of Physicians and Surgeons had the reputation of standing at the head of medical education and turning out the best medical practitioners of that day.

The faculty of the College very soon began to improve the system of instruction and to raise the requirements. The president, James W. McLane, interested Mr. William H. Vanderbilt and his sons and daughters in the medical college, and through their generosity the school was enabled to purchase a large site in West 59th Street and to erect a beautiful and commodious group of buildings, including lecture-rooms, laboratories, maternity hospital and clinical building. With this assistance it became possible to make a very great improvement in the course of instruction. The length of the terms was increased from five months to eight, the period of attendance was increased from two years to four, and examinations for admission were established, and the course of instruction was raised to the highest possible plane. But it was evident that something was wanting.

At this time President Low interested himself in the subject of medical education, and finding that the College of Physicians and Surgeons had already done so much to raise the standard of medical education, he offered to make this College an integral part of Columbia University and offered every advantage that such an association could secure. The trustees of Columbia University supported him in this proposition and the trustees of the College of Physicians and Surgeons generously resigned their positions and turned the College over to Columbia. Under the guiding hands of President Low and his successor the course of instruction has been steadily improved, all the desirable facilities provided, and we may now say that there is no medical college in the world better equipped or better manned than the College of Physicians and Surgeons of Columbia University, thanks to Dr. Low and Dr. Butler.

Dr. Low's presidency is, however, most distinguished by the acquirement of the new site at 116th Street. The University had entirely outgrown the single block at 49th Street, but it had no money with which to purchase a new site. But Dr. Low had the foresight and the courage, founded on his belief in the great future of Columbia, to purchase the magnificent site at 116th Street and to erect the most necessary buildings to accommodate the departments, although in doing so it was necessary to incur a debt of three and one half million dollars. It must never be forgotten, however, that he contributed a very handsome fraction of his own fortune for the erection of the beautiful memorial library, which occupies the center of the group of buildings.

Under Dr. Low's management the Teachers College was erected and reached a high degree of excellence, and Dr. Low also contributed in every way to the development of Barnard College. Dr. Low found Columbia an old-fashioned college in comparatively inadequate buildings and he turned over to his successor, Dr. Nicholas Murray Butler, one of the finest and broadest universities in this country.

You are all more or less familiar with the many activities of President Butler in this present epoch in our history. I hardly know where to begin in referring to him. In the first place, there are the dormitories. We had no dormitories, and it was often said that there could be no college life without dormitories. Dr. Butler has met this difficulty. Through his efforts liberal friends of Columbia have supplied this want and we now have elegant dormitories. We had no chapel, and now we have here the beautiful St. Paul's Chapel. We had no space where our students could exercise, and now we have the spacious South Field. There was no suitable building specially devoted to the College proper, and now we have the beautiful and commodious Hamilton Hall. And then there is the splendidly equipped building for the departments of mining and metallurgy and finally two large buildings are now in process of erection, one, Kent Hall, for the schools of law and political science, and the other for the school of philosophy.

But providing new buildings and strengthening existing schools and courses of instruction are by no means all the things that Dr. Butler has accomplished. One of his most important movements was the establishment of the summer school. A six weeks course of instruction is given during the summer in the greatest variety of subjects, and last year more than two thousand students from all over the United States, some coming even from foreign countries, availed themselves of this opportunity for improvement. A large proportion of the summer session clientele consists of professors and instructors from other institutions who employ their vacation to increase their knowledge of the subject which they teach and to acquire the latest methods of giving instruction.

One of the things in Dr. Butler's development of the University which has interested me most particularly is his incorporation into the University of the New York College of Pharmacy, with which I have long been associated.

Away back in 1866 Professor P. W. Bedford, a Sixth Avenue apothecary, came to me one day and said: "We have a little College of Pharmacy down on Washington Square, and we want you to take the chair of chemistry." I inquired carefully into the affairs of this College of Pharmacy. I found that they had thirty-two students, apothecaries' clerks, but no money, and that they wanted me to give three evenings a week for five months in the winter. They could not pay any salary, but offered a small sum to cover expenses for apparatus and chemicals. I thought the matter over and said to myself: "We must have apothecaries; we can't live without them, and they must be educated, for our lives are in their hands." Pharmacy is a science as well as an art, and the apothecary is not only in a sense the partner of the physician, but he is actually a check or balance-wheel on the physician. If the poor physician has been out all night attending a serious case and inadvertently in writing his prescription for a fresh patient writes in morphine or strychnine when he means quinine, or inadvertently uses the wrong figure to indicate the strength of the dose, the intelligent apothecary sees the mistake and quietly calls it to the attention of the physician. I do not say this as a criticism on the physician; he is only human, but he and the apothecary must work together and it is just as important to have an educated apothecary as it is to have an educated physician.

I thought this all over, and accepted the invitation and have been connected with the College of Pharmacy ever since. It has been one of the pleasantest and most satisfactory interests in which I have ever been engaged. The College has been managed and supported entirely by the apothecaries of the city of New York. It has grown in numbers and it has increased in strength. Many years ago it bought an old church in East 23rd Street and fitted it up with lecture rooms and laboratories, and after another period of prosperity it bought land in West 68th Street and erected a fine building with all the modern conveniences—and we even rejoice in a debt of nearly one hundred thousand dollars. We have had as many as three hundred and sixty students a year and our graduates have given our college a reputation all over the country.

I do not mean to imply that I continued to devote three evenings a week to the enterprise. By and by, after the College had prospered sufficiently, we gave up evening lectures, and besides a large share of my work was placed upon the shoulders of one of our School of Mines graduates, Professor Arthur H. Elliott, and I retained merely one lecture a week in order that I might have the pleasure of retaining my connection with this most useful and flourishing school.

I have given this history of the College of Pharmacy in order that you might appreciate the happiness that came to me and to my associates when President Butler wrote to me as the president of the College of Pharmacy to know if our trustees would care to have our College become a part of Columbia University. Now, there was nothing new in the idea of including a College of Pharmacy among the schools of a university. Every German university has its college of pharmacy; apothecaries have been scientists from the very beginning, and some of the most distinguished names in the history of chemical science have been apothecaries. Pharmacy has always been a most honorable profession. Nothing could have been more satisfactory to me, to my colleagues in the College of Pharmacy, or to the pharmaceutical profession than to receive so flattering an invitation from what is now the most prominent university in this country. I think every apothecary in the city of New York gained a decided addition to his self-respect when he learned that Columbia had associated his profession with that of the physician, the lawyer, and the engineer.

Dr. Butler's most recent movement in the interest of education opens a new field for Columbia and a most inviting one. It is a very serious question how coming generations in this country are to be adequately fed, how our farmers will ever be able to raise crops sufficient to support the population of this country fifty or one hundred years hence. There is only one way in which this problem can be solved, and that is by educating and training men to go out and teach the farmers how to cultivate their farms.

On the average, our farms do not yield one-half, in fact, probably not more than one-third of what they can be made to yield by proper management. It is perfectly feasible to double or even triple the yield of agricultural products. If time permitted I could refer you to special examples of what has been accomplished within the last three or four years at different places in this country which would verify my statements. Dr. Butler appreciates this and he has organized and established a course of agricultural instruction at Columbia, and you would be astonished to see the men and women who have come regularly to the University to attend this instruction during the past winter. I have not heard from Dr. Butler himself exactly what his plans are, but there is a rumor that he intends to expand this extension teaching system, not only in agriculture, but in other subjects, and to give instruction in several other towns within a radius of fifty or a hundred miles of New York. I believe if Dr. Butler lives to have charge of this University for the next twenty-five years and carries out his plans, we may have sixty thousand students enrolled in this University and become, perhaps, the largest university in the world, as we are now the largest university in this country.

I have taken altogether too much time, but I must tell you one thing more. The most distinguished chemical engineer in Great Britain was Dr. Ludwig Mond, who died quite recently. Dr. Mond established the great Solvay Alkali Process in Great Britain, as well as many other important chemical enterprises. He founded at the expense of a million dollars the Faraday research laboratory of the Royal Institution. He had large mining and metallurgical interests in various parts of the world, and he traveled from one country to another to look after his interests. I had the pleasure of dining with him five years ago and he said to me: "I am going to tell you something which I think will interest you. You know I have been traveling around the world to South Africa, Australia, New Zealand, South America, Mexico, California and other places, and I have met a great many mining engineers in these countries, and wherever I have been, I have found that the most distinguished mining engineers had been educated in the United States and the most eminent of these came from the School of Mines of Columbia University."

In closing, I want to tell you, my boys, how happy I am to stand before you tonight to realize that you are all my old students, and that after listening to me for the many years you did you are willing to come here and listen to me again, and to give me this crowning proof of your respect and affection. I thank you with all my heart.

A number of resolutions, telegrams and letters were received, and read by the toastmaster. Among them were the following:

The Illinois Alumni Association of Columbia University wishes it could attend the dinner to Dr. Chandler in a body. Instead it sends its best wishes; and while you all are cheering Dr. Chandler in unison tonight, each member out here will be leading his own cheering for the doctor and wishing he could be with you.

CHANNING R. TOY, '04, secretary

Felicitations Colorado Alumni to Dr. Chandler. Long life and happiness.

THOMAS B. STEARNS, '81 S

I wish that I might attend the dinner to do honor to Dr. Chandler after his forty-six years' service to Columbia University; but I regret very much to say with all my admiration for Dr. Chandler, which is without limit, my engagements make it impossible for me to accept the invitation.

JOSEPH H. CHOATE

I find to my very deep regret that it will be impossible for me to be in New York on April second, and attend the Testimonial Dinner to Dr. Chandler. Though I can not be present on that occasion I should deem it an honor and happiness to join the admirers and friends of Dr. Chandler in showing my appreciation of his distinguished services in the cause of education and science.

FREDERICK D. GRANT,
Headquarters, Department of the Lakes, Chicago

Nothing would afford me greater pleasure than to be able to testify my regard for Dr. Chandler at this Testimonial Dinner; but I am exceedingly sorry to say that on April 2d it will be absolutely impossible for me to be present. I feel more regret than I can express in words.

HORACE PORTER

Washington, March 30, 1910

The undersigned graduates of the School of Mines send you greeting, and an expression of appreciation of the splendid work you have done for Columbia, and for us, your former students.

We hold in affectionate remembrance the kindly humor with which you imbued our youthful minds with other and broader wisdom than the chemistry you so successfully taught.

May you have many years yet to live and teach, for with you to live is to teach.

Most cordially,

BAILEY WILLIS, '78	H. C. ROBERTS, '81
H. M. WILSON, '81	D. H. BALDWIN, '95
E. M. DOUGLAS, '81	E. C. BARNARD, '84

MARCUS BENJAMIN, '78

. . . I am not willing to let this occasion pass without expressing the warm admiration and friendship I have always felt for you and which I hoped to show more publicly tonight. You know you and I "entered" the School of Mines the same day—the one it opened—and I have the feeling of an old friend.

I wish you a long and happy life, as full of usefulness in the future as it has been in the past, and renewing my expressions of interest and friendship, I am,

Very sincerely yours,
JOHN A. CHURCH, '67 S

Most unexpectedly and with more regret than I can express, I am obliged to miss the Testimonial Dinner to my very dear friend, Dr. Chandler. An appointment made by the court for a hearing in St. Paul, which can not be avoided or postponed, will make it impossible for me to reach New York by the evening of April second. This enforced absence is to me a sorrow that I shall lament as long as I live.

EDMUND WETMORE, '63 L

I congratulate the committee on having thought out so fit a testimonial to express the universal love and regard in which Dr. Chandler is held by all his former students. I regret extremely that I can not be present at the dinner since I should have dearly loved to see the Doctor again and grasp his hand.

CHARLES M. ROLKER, '75 S
Leadenhall Buildings, London, England

Please tell Dr. Chandler how much I regret not to be present at the dinner to cheer once more for him as I so often have done. And you, lucky college mates, let each raise his voice a bit higher to make up for the unwillingly absent ones.

Francis Del Calvo, '84 S
Havana, Cuba

Lost in Philadelphia. Best wishes to Dr. Chandler. Regret absence.

James Duane Livingston, '80

Serious impairment of sight within recent years prevents me from attending a public gathering. I therefore take occasion to send through your courteous offices my affectionate greetings and heartfelt congratulations to your distinguished guest of the evening, our well beloved Professor Chandler. Not only we who enjoyed the privilege of his illuminative teaching and felt his fine uplifting influence—not only the two generations of students who hold him in cherished remembrance—but the whole university body is greatly appreciative of his devoted and generous services and justly proud of the developments that owe so much to his exceptional abilities in initiative, organization and administration. With enduring esteem and ever affectionate regard I heartily congratulate our beloved Professor Chandler upon the fullness of a career rich with beneficent achievement and crowned with honors; and I pray that in the strength to be found "in years that bring the philosophic mind" he may long live to enjoy the abundant and grateful harvest of so fine a fruition.

Henry Augustus Whiting, '66, '69S
Baltimore, Md

Letters were also received from Senator Elihu Root, Dean H. H. Rusby of the College of Pharmacy, Professor H. F. Osborn, Stuyvesant Fish, '71, Alfred Meyer, '74, Dr. Robert Abbe, '74 M, Thomas H. Leggett, '79 S (Cripple Creek, Colo.), Professor W. Hallock, '79, John H. Mulchahey, '79, Arthur H. Elliott, '81 S, Michael J. O'Connor, '81 S, A. V. Williams Jackson, '83, Charles A. Powers, '83 M (Denver, Colo.), Wilbur E. Sanders, '85 S, Frederick R. Coudert, '90, Gano Dunn, '91 S, A. D. Granger, '92 S, John B. McCook, '94 M, Charles H. Ellard, '97, Lester W. Strauss, '00 S (Lima, Peru), Ralph W. Dox, '06 (Paris, France), S. Bookman, and George F. Fisher.

The following resolution was unanimously passed at the annual meeting of the Alumni Association of Columbia University in Colorado:

The Alumni Association of Columbia University in Colorado, in annual meeting assembled, desires to express to Professor Charles F. Chandler its grateful appreciation of his distinguished services to Columbia. It is worthy of mark that Professor Chandler has been active in the department of chemistry for forty-six years. It is of greater note that his services have always been of the highest order, that he has contributed in great degree to the extending of the fame of Columbia during this half of a century.

The university possessing the loyal devotion of such a man has been most fortunate, and the sons of Columbia in Colorado heartily and earnestly join with Columbia's sons in all parts of the world in tendering to Professor Chandler on this occasion of his retirement from active work, their sincere wishes for his health and happiness during many coming years.

Resolutions were also adopted by the Chemistry Teachers' Club of New York City.

THE TOASTMASTER:

It is not so many years since it was thought that the essential requirement for the president of an educational institution was to know how to personally teach and discipline students. Today we recognize that the president of a university or college should possess at least three great qualifications: First, he should be a broad-minded educator; secondly, he should be a good business man; and thirdly, he should possess great executive ability. We of Columbia believe that we have at the head of our University a president who combines all these requirements.

I give you, as the second toast of the evening, Columbia and her President, Dr. Nicholas Murray Butler.

SPEECH OF PRESIDENT BUTLER.

Mr. Chairman, Dr. Chandler and Fellow Columbians:

This is no ordinary occasion, and I do not find myself in a mood for an ordinary after-dinner speech. Our very jollity and enthusiasm are in a sense a cloak for the deep feeling that we have in the presence of our old friend, teacher and colleague, who has asked the privilege of laying down the burdens of his office.

The life of our University, so large, so various and so complex, is very like the life of a great nation. Our interests are many. Our institutional development is rapid, and it goes on here and there by almost unseen and unmeasured steps; but in the University as in the nation, we mark most of all, and we cherish beyond all else, the coming and the passing of personalities. No substitute has been found in specialized scholarship or in technical skill or in acquired art for those precious qualities of mind and heart that make a man a great teacher to generations of students. When a university can point, as we can so frequently point, to great personalities, men who have mastered their science or their branch of letters or of learning, who have infused into it the red blood of human feeling, who possess sympathy, with that care which means affection for those who are about them—then we have a university that is a living thing. We have had these personalities at Columbia from the very beginning. I like to think of William Samuel Johnson, sitting in the Senate of the United States, serving on its judiciary committee and helping to frame the important judiciary act in the first decade of our government's existence, while he was still president of our College. I like to think of the great Mitchill, Dr. Chandler's predecessor, whose name has been given to his chair, teaching chemistry to college students while serving the public in a thousand ways. And I like to think of McVickar, of Anthon, of Lieber, of Drisler, and I like to think of Van Amringe and of Chandler. It is by the coming and the passing of the services of these personalities that we mark the real history of Columbia College and Columbia University, and we shall be poor indeed, no matter how magnificent our site, how splendid and how numerous our buildings, how large our endowments and how great our enrollment, we shall be poor and wretched indeed when personalities—great human personalities—are no longer found in Columbia's life.

Therefore I do not dwell tonight, even for a moment, on Dr. Chandler's scientific services. His science is not mine, but I know something of what he has done for his science. I know something of the patience, the generosity and the unflagging zeal with which he has applied his knowledge of chemistry to industry and to the public welfare and the public health. I know that when Columbia had to borrow, Chandler had to give. I know that he has built up out of his own earnings and resources a great chemical museum the like of which this country has not seen, and I know that he has put into the department of chemistry—when the trustees from poverty could not do so—the additional resources and teaching strength that it needed.

What he said just now of Barnard was well and finely said, but I say it of himself as well.

Believe me, fellow alumni, it is a serious thing for the servant of the University—whether he be trustee, or president, or professor, or junior officer—believe me, it is a serious thing for him to mark the passing from active university life of the men who have always been on the firing line. It is not easy to contemplate the absence of those with whom one has intimately and affectionately counselled through long years of association. It is not easy to see just how certain personal qualities are to be transmitted or how successors with those qualities are to be found. The world is full of chemists, but there are not very many Chandlers.

Columbia is not marking the retirement of a chemist; it is marking the retirement of Dr. Chandler. I know how easy it is to fall into the mood of praising the old order, of laying the emphasis of excellence upon the older generation and the older way of doing things. I know how easy is the temptation to fall into the mood of *laudator temporis acti,* and I know how frequently it is untrue and unwise to do so; but I do confess to a feeling of some anxiety as to whether with all the refinement of our methods and the enlargement of our resources, I do confess to some uncertainty as to whether we are with sureness producing men of the type of those we have so long honored and loved. . . .

What is the trouble? Is it that we can not see the wood for the trees? Is it that there are too many solicitations to the attention, to the interest, to the human inventive power to let it work freely and instinctively as it should? Whatever may be the answer to this question, I know that we can not get on without personality, and I mark with sadness and sorrow the retirement from active service of a personality which has been familiar to me for thirty-two years and which has always been full of charm, abounding in loyalty, generous in doing for Columbia and the public, and anxious to find new ways in which to serve. I call that a great academic and a great human service and I am glad to have had this personality on the proud rolls of Columbia. God bless you, Dr. Chandler!

THE TOASTMASTER:

Among the alumni of the old School of Mines there is a graduate who has combined in the alembic of his mind the elements of chemistry with the spirit of poetry, and has distilled therefrom a compound so beautiful and appropriate for this evening that your committee have asked him to submit it to you.

I propose as the next toast the health of Mr. Charles B. Going, chemist, engineer and poet.

POEM OF CHARLES BUXTON GOING, '82S

TO CHARLES F. CHANDLER

In the dear old days, when first we came
To the Qualitative Lab.
And learned to read, in the Bunsen flame,
Our chemical "AB, ab",

You know how some strong elements
Would oftentimes control
Because their flame was so intense
It color-tinged the whole?

It's so with men. Apply the test,
And each life's fire will glow
With its strongest thing—the thing that's best.
What does our heart-test show?

Look there! and there! In each lighted face
The answer's easy to see—
A strong reaction in every case—
We're richest in . . . CFC.

For (this let him explain who can
By Quantitative lore)
Chandler could give to every man,
Yet grow, not less, but more !

Here the atomic theories fall;
Ions can not explain
How one can share himself with all,
Yet more than all remain!

"Atoms?" Why, scarcely more were we
Till, with a force benign,
A wise and loving alchemy,
He helped us to combine.

He linked the bonds from each to each—
He made us crystallize. . . .
God bless the man who did more than teach,
And stood by us, brother-wise!

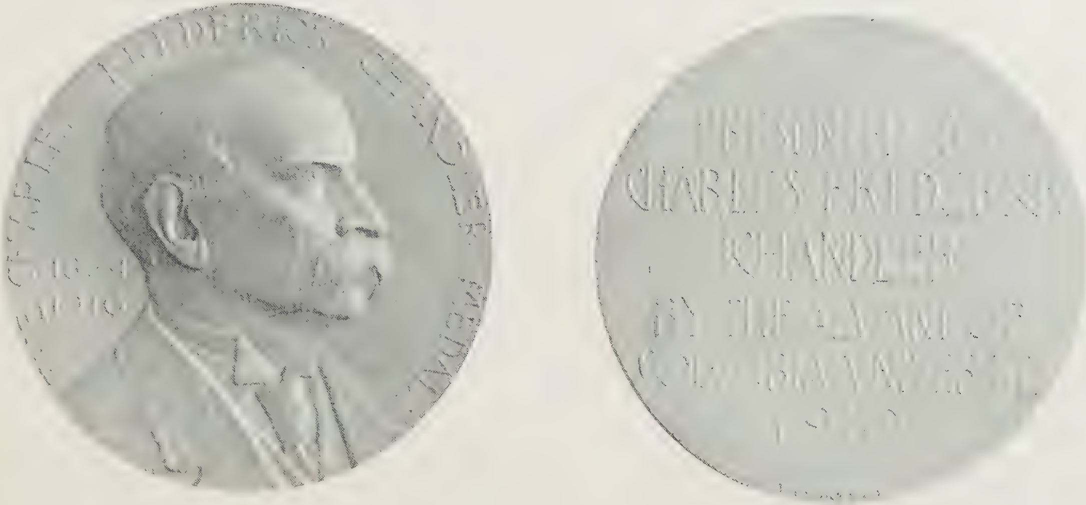
Dear Master, better—yes, better far
We know you now, than then
For the living force that you were, and are,
Leading the leaders of men!

Eyes that could gauge an atom's girth
And yet be blind to a fault—
By every test for the salt of the earth,
You are yourself, The Salt!

THE TOASTMASTER:

Dr. Chandler. The alumni of Columbia, having in mind your long and great services to their *alma mater,* and your high record as a chemist, and in recognition thereof, have conveyed to the trustees of the University a fund, to be known as "The Charles Frederick Chandler Foundation." This fund is to be held by the trustees in perpetuity, and the interest thereon devoted each year to defraying the expenses of one or more great public lectures on chemistry, or some of its applications, to be delivered before the University by some distinguished lecturer to be selected each year by the trustees; the lectures to be known as "The Chandler Lectures." I now hand you a deed of gift of this fund from the committee of the alumni to the trustees, in order that you may place the same in the hands of the president of the University.

As an additional token of the regard and affection of your old students and friends in the several schools of Columbia, I present



THE CHANDLER MEDAL

you on their behalf with this gold medal, to be known as "The Chandler Medal"; a replica of which is to be given each year to the lecturer selected by the trustees to deliver the lecture provided for by the Foundation; the die from which this medal has been struck to remain in the possession of the trustees of the University for this purpose.

The inscription on the box containing the medal reads as follows:

Presented to
DR. CHARLES FREDERICK CHANDLER
April 2, 1910
By his former students and present
friends in recognition of his long
and distinguished services to
COLUMBIA UNIVERSITY
and as a mark of their esteem
and affection for him as a man

I also present you with an album containing the name, school and class, of each subscriber to the fund and medal.

By creating this Foundation on the basis stated, the alumni believe that your work and name will be further identified with Columbia in the years to come, and be familiar to all her future students and graduates as long as the University endures.

DR. CHANDLER:

My dear Ricketts.—I have known you since you were a boy: You have been my pupil, my assistant, my colleague, always my loyal and devoted friend, one of my nearest and best beloved. It greatly enhances the value of this honor to receive it from your hands. No more acceptable token of affection and regard from "my boys" could have been devised than this deed of gift and medal, which will keep my memory green long after we have all passed away. Let me thank you and your associates with all my heart.

My dear Dr. Butler.—You have learned from the address of Dr. Ricketts, that my pupils have conferred upon me the greatest gift within their power. They have arranged to perpetuate my name in a most acceptable manner in connection with the science which has given me the greatest happiness for a long life, and with Columbia University which has given me the greatest opportunity to make the science useful to my fellowmen.

I am glad to place this deed of gift in your hands, the hands from which I have received so much kindness, for transmission to the board of trustees, who have trusted me and honored me for nearly half a century.

President Butler, in a few well chosen words, expressed his appreciation of the gift and accepted the fund on behalf of the trustees of the University.

THE TOASTMASTER:

Perhaps there is no profession in which a knowledge of chemistry constitutes such an important factor as medicine. Part of the work of our guest was for many years in the College of Physicians and Surgeons, both in the old building still standing at 23rd Street and 4th Avenue, and in the newer and more complete buildings at 59th Street. Here, as in the other schools of the University, his old students learned to appreciate his character and teaching, and the graduates in medicine have joined with the other alumni tonight in adding their testimony to that of the schools of science, arts and pharmacy.

We will drink the next toast to Dr. Samuel W. Lambert, representing the alumni of the College of Physicians and Surgeons.

SPEECH OF DEAN SAMUEL W. LAMBERT

Mr. Toastmaster and fellow alumni.—I have been summoned this evening to be examined on the subject of chemistry, and incidentally to represent the College of Physicians and Surgeons. To meet this requirement I spent last night reading my twenty-five year old note books, but my chief qualification was secured by training in the lecture rooms of the College both at lectures and at examinations at the time when those note books were written.

I can remember no one of the College professors of my student days who left more of his subject in the memories of his hearers than did Professor Charles F. Chandler. Who can forget also the chemistry examinations of those days held under Professor Chandler's eye while he read that newspaper with the large peekhole in the center of it. Through that newspaper funnel all of this assembled multitude of Columbia men have filtered in more or less saturated solution of knowledge to the filtrate of their degrees and have finally not been left in the precipitate of ignorance.

Fellow students of Columbia, who have sat under our honored guest, and especially those of the College of Physicians and Surgeons, who acquired their knowledge of chemistry while sleeping through the five o'clock lecture hour except when interrupted by the disturbing actions of Professor Chandler's assistants, Mr. Elliott, the gas man, and John, the slave. I would picture to your minds those lectures which we all remember so well, in which we absorbed our chemistry through all of our organs of special sense, in spite of the stuffy quarters in the 23rd Street lecture room and kept alert by the bright lights, the loud noises and the bad smells which were so characteristic of that last lecture hour of the day. We have never forgotten and we never can forget the facts that we learned on those occasions. Which one of us does not know all about the chemistry of the air with its familiar symbols? Who does not know the difference between H_2S and H.S. or H.D. as applied to the air of cities in the days when the English sparrow still thrived in our streets and before the air was polluted by the automobile or was purified by the subway? Which one of us does not know how to ventilate the lawn of a son-in-law or fertilize a garden according to the rules of the Board of Health of Westhampton, Long Island. Who does not know that the ground air and the ground hog come out of their holes in the spring and why? Which one of us could fail to qualify as an expert on the nitrites and chlorides of drinking water and whose they were and which one of the neighbors had lost them?

But I found in my note books last evening more sober subjects and more striking facts. You must remember that the College of Physicians and Surgeons felt the influence of Professor Chandler for twenty-five years, during which he held the position of professor of chemistry and medical jurisprudence, and during eleven years of that time he was also president of the health board of this city.

Professor Chandler always interpreted his subject to embrace all that might help the young medical student to fight disease. His chemistry included the more modern sciences of hygiene and of sanitation and it was his self-imposed task to present always the latest facts and theories of preventive medicine.

In these days when the question of hospital construction is being reargued as if it were not a settled question, it is a striking fact to find Professor Chandler thirty years ago standing squarely for the advisability and safety of building tall hospitals in cities. Thirty years ago bacteriology was young, and yet my note books abound in suggestions for purifying the water supply and for suspecting the milk supply of all cities in general and of New York in particular. His crusade against the dishonest milk dealers with its vigorous methods of punishment, the pouring of impure milk into the gutter, was long continued and fought in the courts to a final victory for Professor Chandler's method and a vindication of the police powers of the Board of Health. Nevertheless it has taken a continuous struggle of many years since that first victory to devise complete practical measures and to bring us to the present improved condition of our milk supply. Professor Chandler began that reform.

Although the causative germs of typhoid fever, of dysentery and of cholera were only just discovered and but little understood in the early eighties, my note books point out the methods of prevention by careful selection of drinking water. These ideas on sanitary science are those of common knowledge today, but in 1882 they were so advanced as to be almost revolutionary.

I find also in my notes those plans for the sanitary plumbing of dwellings which were first formulated under Professor Chandler's régime in the health department and which are still the model for the civilized world. I find protests against patent medicine and against political graft, both of which subjects are very much alive today.

Professor Chandler's greatest fight and greatest achievement was in the reorganization of the hospitals of the health department. This was begun as a necessary adjunct in the fight against smallpox. In 1875 smallpox was epidemic in the city. It had been endemic since 1800. After a vigorous campaign the disease was stopped and did not reappear in epidemic form till 1881, and no epidemic of serious proportions has recurred. The compulsory vaccination of school children before admission to the public schools of this city was begun at that time and this requirement of the health department is still in force and has been and is a potent factor in controlling that disease. This also is Professor Chandler's work. I might multiply these examples of the public service of our guest, but it is not necessary and I resist the temptation to go on.

Professor Chandler: It is a great pleasure to record your work in the College of Physicians and Surgeons and the masterly manner in which you impressed upon its students not only the medical applications of pure chemistry, but also the latest facts and theories of medical hygiene and the beginnings of preventive medicine and sanitary science.

Your method was that of the lecture-room, which is becoming a lost art, because better and more practical methods have been devised, and we must also record that when those newer methods began to be advocated, it was under your régime that a laboratory for medical chemistry was organized and laboratory methods and elbow teaching in chemistry were begun in the College of Physicians and Surgeons. It is a pleasure to remind this assembled group of Columbia graduates that you served as the first president of the Board of Health in the City of New York who took a broad view on the modern scientific basis of the work of that department.

And, finally, I wish to express to you the personal indebtedness of the many medical men who have sat under your instruction and to add the congratulations of a long list of graduates of the College of Physicians and Surgeons to those of the graduates of other departments of the University upon your achievements.

THE TOASTMASTER:

The Forty-Niners here tonight will recollect a certain professor whom they regarded with mingled feelings of fear and affection—fear, because of their own failings; affection, because of his just and kindly ways. This professor furnished mathematical fuel for chemical combustion, and our banquet would not be complete tonight without him, inasmuch as he was so closely associated with the work of our honored guest.

Gentlemen, let us drink to Professor John Howard Van Amringe, so well known and loved by us all as " Van Am."

SPEECH OF DEAN JOHN HOWARD VAN AMRINGE

Mr. Chairman and Fellow Alumni.—We are here, not to bid farewell to our friend, the guest of the evening, but to mark, with high appreciation and affectionate regard, the close of an active academic career long, distinguished and fruitful.

I do not care to speak, at this time, of Dr. Chandler's services in the Board of Health, which was made anew under his remarkable administration; in the courts of law as an expert on scientific matters, in which he became eminent; in the creation of his splendid chemical museum, unique of its kind and without an equal anywhere; in his contributions to the science of chemistry; and of the distinctions conferred upon him, at home and abroad, in the course of his noteworthy career.

I prefer to think of him tonight, and to speak of him, in connection with the old School of Mines, in which I have had the good fortune to serve as his colleague and coworker from its foundation, forty-six years ago, to the present time; as to his contributions, through that school, to the extension and improvement of scientific education throughout the country; his attractiveness and power as a lecturer and a teacher, in class-room and laboratory; his interest in, and sympathy with, struggling young men, his pupils, and his encouragement of them not only in words but in ways more substantial; and to his high minded and generous treatment of his staff, of all, indeed, with whom he had dealings, officers and students alike. In these regards, Dr. Chandler is to me, and doubtless to many of you, the great man, the benefactor, the beloved friend whom we delight to honor.

How far the plan of the School of Mines was the result of conferences with Professor Chandler, I do not know; but this I do know—that, on its organization, he was made the dean and, in a higher degree than any other, his was the " vital spark of heavenly flame " that vivified the whole undertaking. He gave to it all his fine spirit, his energy and courage, his cheerfulness and optimism. Whatsoever his hand found to do, he did with his might; whatever the sort of service needed to strengthen and give it standing, he was ready and eager to render. His enthusiasm was infectious and stimulating. Many a time and oft he spent " laborious days and nights devoid of ease" in furthering the cause to which he had devoted himself. On occasion, he served not only as dean and professor, but also as janitor and man of all work. I know whereof I speak: in early mornings of the old days I have seen him, having on his arm the historic covered basket containing, doubtless, among other things, a good supply of driving force and spiritual dynamite, hastening to the school to see that all was in readiness for the day and to remedy any defect that he might find. Later I have known him poring over plans for a new building and constituting himself, by his ability and absorbing interest, the real architect and foreman of the work. Such devotion had its reward. The School grew rapidly and steadily in numbers and reputation, and soon acquired international renown. The years of Chandler's deanship were prolific of great results—they constituted a truly Augustan age. In the thirty-three years of his headship, the School of Mines developed into the several great schools of applied science that we now have; advanced courses in science for the degree of doctor of philosophy were instituted and successfully conducted, thus doing much to lay a foundation for, and suggest, a school of pure science. The dean's part in effecting this development and growth was large and important. And then his lectures and his relations with students—who of you can forget them or cease to treasure them as a blessed memory? You learned of him not only chemistry, but habits of mind and thought, lessons of life and conduct so administered as to burn them into your consciousness and leave behind no wound or scar. His wit and humor played over all his discourse, and his illustrative anecdotes and stories have become college classics. Think of the educative and constructive power exerted by such a man, working for nearly half a century with young men now scattered all over the globe, and of his continuing influence, through his pupils, on generations yet to come. It is such a beneficent power, such a gracious and enduring influence, as I have feebly indicated, that we now rejoice in and celebrate. To him who exercised them so long for the advancement and glory of our *alma mater* and the benefit of her sons, we pay a just and willing, a grateful and loving homage; and, in the future, should old age come to him, we all hope that it may descend upon him gently and like a benediction, and that he may find

Age is opportunity no less
Than youth itself, though in another dress,
And as the evening twilight fades away
The sky is filled with stars, invisible by day.

The following songs were written for the dinner, and sung in the course of the evening:

ATOMS AND MOLECULES

Air: *I've Got Rings On My Fingers*

I

Charlie Chandler found his way,—
  A youngster lean and spare,—
To New York City one fine day
  When chemists still were rare.
He met some men of science
  Who put him on a chair,—
In old Columbia College,
Where he could air his knowledge
In the lecture-hall and lab.
With his entertaining gab!—

Chorus
For he had atoms and molecules
  Thick on the brain;
Elements, enough o' them
  To drive a man insane!
But catch him a-smilin', a-winkin' his eyes,
Gee,—that's enough to put the fellows all wise!
(Such eyes!)

II

Ever since his foot he set
  Within that College door,
There never was a fellow yet
  Who didn't cry for more,
When dosed and crammed with symbols
  Fresh from his chemist lore,
Still, after forty-six years,
They cry with ringing cheers,
For the compound acid-free,
Ever more of *C. F. C!*

Chorus

CHEMICAL YIPS

Air: *Yip-i-addy-i-ai!*

I

A fellow imprudent—a chemical student,—
  Whom Chandler taught *analyses,*—
Of liquids not rare, that one finds anywhere,
  Felt quite sure he could make them with ease.
He boldly set forth toward a room facing north
  Which a pretty young miss occupied;
There seized a small flask, and then flew to his task
  While in great consternation she cried:

Chorus

"E-yip my laddy, I say,—I say,
E-yip my laddy, I say,—
I don't care what becomes of me
If you take my per-oxide from me!
E-yip my laddy, I say,—I say,
My heart wants to hold men alway,—
So my hair needs that bleach,—be then kind I beseech,
E-yip—Don't give it away!!

II

In chem. laboratory—a chap in a hurry—
  A test-tube let fall to the floor.
It wasn't a minute, ere every man in it
  Had made, with a rush,—for the door!
Then Chandler pell-mell, quickly sniffing the smell,
  Sailed in for the boys,—for he knew
That it was H_2S made that h— of a mess—
  And choked with emotion, cried *Phew!*

Chorus

Phew! my laddies, I say, I say,
Phew! my laddies, I say,—
Tell me who spilt all that H_2S,
Whoever made that vile mess, *must* confess?
Phew!—my laddies, I say, I say,—
The guilty one now step this way,
While his nose he holds closed, be he kindly disposed—
Phew!—to take it away!

HERE'S TO CHANDLER

Air: *Heidelberg*

Hearts that are warmed with the glow of love
Can never be melancholy.
Happiness flows from a source above,
From the spring of friendship benign.
Tonight its clear waters alone, we think
Could not keep our spirits jolly,
Then rather let's clink—but first let us drink
This toast in the fiery wine!

Chorus

Here's to the land which gave him birth,
Here's to the flag she flies,
Here's to his home, the best on earth,
Here's to its true-blue skies.
Here's to the day that brought him here,
Here's to his laughing eyes,—
Here's to the man we all hold dear,
The man we idolize!

Columbia, Columbia—thy sons from far and near
Have come tonight, their hearts to plight to Charles F. Chandler here;
With love he served the White and Blue, throughout these many years,
Each thought of him, so good, so true, his name to us endears!
(*Repeat last line*)

LIST OF THOSE ATTENDING THE CHANDLER TESTIMONIAL DINNER

Abraham, H., '03 S
Acton, H. W., '00 S
Adams, W. C., '84 S
Alsberg, J., '01 S
Amend, B. G., Phar
Amend, C. G., '08 S
Amend, O. P., '79 S
Anderson, P. C., '87 C
Angell, R. G., '81 C
Anthony, R. A., '81 C
Arendt, M., '98 S
Arrowsmith, R., '82 C
Ashmore, S. G., '72 C
Averbeck, M. J., '83 Phar

Bacon, G.
Baekeland, L. H.
Bandler, S. W., '92 C
Bangs, F. S., '78 C
Banks, H. P., '08 C
Banks, J. H., '83 S
Barnes, G. H., '83 C
Barratt, E. G., '84 S
Bartow, C. S., '74 C
Bathgate, J. E.
Baxter, G. S., '68 S
Beach, C. C., '82 P & S
Beekman, G., '64 C
Beers, L. H., '81 C
Behr, E., '77 S
Benedict, W. deL., '74 S
Benjamin, M., '78 S
Berg, H. W., '81 P & S
Berry, W. G., '86 S
Bird, H. K., '99 S

Bissell, P. St G., '80 C
Blossom, F., '91 S
Boecklin, W., '91 S
Bogert, M. T., '94 S
Bogert, W. L., '88 C
Bogue, M. G., '00 C
Bonner, R. O., '09 S
Boyd, C. S., '77 S
Bradley, A. B., '03 S
Bradley, W. E. F., '05 S
Bradley, S. R., Jr., '90 S
Brauns, W., '90 C
Breitenbach, M. J., '77 Phar
Brereton, T. J., '83 S
Brewster, H. D., '83 S
Brinckerhoff, W. B., '85 C
Brophy, P. J., '09 S
Brown, E. W., '83 S
Brown, J., '83 S
Buckley, C. R., '74 C
Buhler, J. S., '01 C
Bulkley, L. D., '69 P & S
Burns, A. L., '87 S
Burns, D. J., '00 S
Burr, W. H.
Burrill, D., '82 C
Burritt, W. W., '84 S
Butler, N. M., '82 C
Butterworth, G. F., '74 C
Butterworth, W. H., '64 C

Calman, A., '82 S
Campbell, B. H., '68 C
Candler, D. W., '95 F.A.
Canfield, J. A., '73 S
Carson, J. P., '68 S
Chandler, C. F.
Chapin, H. E., '07 C
Chase, W. F., '85 C
Chauncey, G. W., '69 S
Cheesman, T. M., '74 C
Church, E. D., '87 S
Church, J. A., '67 S
Clark, E. P., '80 S
Clark, G. H., '93 S
Coblentz, V., Phar
Cochran, G. G., '84 P & S
Collins, C. F., '87 P & S
Collins, R., '91 C
Congdon, E. A., '87 S
Content, H. A., '08 C
Content, W., '77 S
Cooke, T. F., '04 S
Cornell, R. C., '74 C
Cornwall, H. C., '79 S
Coykendall, E., '95 S
Coykendall, F., '95 C
Cowing, P. F., '02 S
Cragin, E. B., '86 P & S
Curry, E. S., '86 S
Curtis, C. C., '95 U
Curtis, C. G., '81 S

Davies, J. T., '66 C
Davis, B., '00 S
Deghuée, J. A., '90 S
Delatour, H. B., '87 P & S
Demorest, W. C., '81 C
Denig, R., P & S
Devereux, W. B., '78 S
DeWitt, E., '86 C
DeWitt, G. G., '67 C
Dieckman, G. C., '88 Phar
Dimock, W. deW., '88 S
Dodge, E. L., '88 C
Doremus, M. B., '10 C
Douglas, A., '94 S
Douglas, J. S., '90 S
Dow, A. W., '88 S
Draper, W. K., '88 P & S
Dresser, D. L. R., '89 S
Drummond, I. W., '78 S
Dwight, A. S., '85 S

Earle, A. W., '77 S
Edmonds, W. D., '76 L
Eilers, K. E., '89 S
Eimer, A. O., '06 C
Elliott, W., '80 S
Ellis, G. W., '70 L
Ellison, J. H.
Emanuel, L. V., '96 S
Erhard, G. P., '79 S
Everson, D. S., '64 C
Ewing, T., '85 C

Faber, L. W., ’82 S
Fackenthal, F. D., ’06 C
Fairbairn, H. A., ’78 P & S
Fairchild, S. W., Phar
Falk, D. B., ’82 S
Feinberg, B. G., ’10 S
Ferguson, G. A., ’90 S
Ferguson, W. C., ’87 S
Feuchtwanger, H., ’82 S
Fink, C. G., ’03 C
Fitch, W.
Foyé, A. E., ’90 S
Frank, E., ’03 S
Frank, J. W., ’88 S
Fridenberg, P., ’86 C
Frost, H. H., Jr., ’83 C

Gaige, R. C., ’03 C
Geisler, L. W., ’94 Phar
Gies, W. J.
Gildersleeve, A. C., ’90 S
Gillies, E. J., ’82 C
Goetze, F. A., ’95 S
Going, C. B., ’82 S
Goldschmidt, S. A., ’71 S
Goldsmith, B. B., ’87 S
Goodwille, R. H., ’00 S
Goodwin, J. T., ’76 C
Gordon, P. A., ’07 C
Gordon, R., ’88 C
Gordon, W. S., ’73 C
Gore, J. K., ’83 C
Greene, E. R., ’82 C
Gudeman, E., ’87 S

Haffen, L. F., ’79 S
Haight, L. H., ’04 S
Hallock, A. P., ’80 S
Hamlin, A. D. F.
Harrington, H. S., ’99 C
Harris, E. A., ’89 S
Harrison, J. B., ’76 P & S
Hart, C. H., ’90 S
Hathaway, N., ’79 S
Hauser, J. O., ’09 C
Hazen, W. L., ’83 C
Heinze, F. A., ’89 S
Henderson, N., ’83 S
Henning, A., ’76 Phar
Henry, A. D., ’84 C
Hendricks, F., ’56 C
Hepburn, H. C., ’82 C
Herzig, C. S., ’95 S
Herzog, F. B., ’81 C
Hildreth, W. E., ’77 S
Hill, H. A., ’88 S
Hill, W., ’82 S
Hinkel, F. C., Jr., ’07 U
Holden, E. H., ’78 S
Holden, G. A., ’84 C
Hollick, C. A., ’79 S
Holzhauer, C., ’73 Phar
Holzhauer, C. W., ’06 Phar
Hoppin, M. W., ’68 P & S
Hosmer, J. R.
Hotchkiss, L. W., ’81 C
Hoyt, J. S., ’90 S
Humphreys, A. C., ’03 H
Huntington, F. W., ’85 S
Hurlbut, E. D., ’90 S
Hyde, F. S., ’93 S
Hyde, H. St. J., ’97 S

Ingraham, A., ’70 C

Jabine, W., ’07 C
Jackson, G. T., ’78 P & S
Janeway, J. H., Jr., ’86 S
Janeway, T. C., ’95 P & S
Jobbins, F. H., ’95 S
Johnson, A. B.
Johnson, A. G., ’85 S
Johnson, E. M., ’78 S
Johnson, G. H., ’78 S
Johnson, I. B., ’79 S

Karr, C. P., ’78 S
Kelley, W. E., ’07 C
Kemp, J. F., ’84 S
Kemp, W. C. B., ’72 C
Kennedy, J. W.
Keyes, E. L., Jr., ’95 P & S
Kiliani, O., P & S
King, W. V., ’89 C
Kip, H., ’77 P & S
Kirby, G. T., ’95 S

Klaber, W., '05 C
Knox, C. S., '62 C
Kohnstamm, L. S., '02 S
Kraemer, H., '95 S
Kress, O., '06 S
Kunhardt, W. B., '80 S
Kunz, G. F., '98 H

Lambert, S. W., '85 P & S
Larimore, D. T., '85 Phar
Lawrence, B. B., '78 S
LeBoutillier, C., '81 S
Lederle, E. J., '86 S
LeDoux, A. R., '74 S
Levi, J. C., '96 C
Levy, A. L., '90 S
Lewis, R., Jr., '85 P & S
Lewisohn, J. A., '05 S
Lichtenstein, E. G., '90 F.A.
Lighthipe, W. W., '98 S
Lindsay, W. G., '01 S
Lindsley, S., '70 S
Love, E. G., '76 S
Lovis, H. C., '93 P & S
Low, Seth, '70 C
Lum, C. M., '81 C
Lum, R. E., '00 C
Ludlam, F., '95 F.A.
Lyman, F., '78 S

McIlhiney, P. C., '92 S
McIntyre, E., '47 Phar
McIntyre, E., Jr., '76 Phar
McKim, W. D., '75 C
McLoughlin, C., '84 C
MacAlarney, R. E.
Machen, H. B., '98 S
Mackenzie, J. C., Jr., '09 C
Maicas, O. R., '97 S
Main, T. F., '71 Phar
Mapes, C. H., '85 C
Mathews, J. A., '95 U
Mathez, A., '77 S
Mayer, R. E., '79 S
Maynard, G. W., '59 C
Meeker, A. J., '00 C
Meeker, J. B.
Meikleham, W. A., '86 C
Meissner, C. A., '80 S
Merrall, W. H., '93 C
Metzger, F. J., '02 S
Miller, S. O., '95 S
Mitchell, W., '68 C
Moeller, E. J., '95 F.A.
Moffat, A.
Moffat, L.
Monell, A., '96 S
Moneypenny, W. M.
Montgomery, J. S., '89 C
Moody, H. R., '07 U
Moore, P. N., '72 S
Moore, W. C.
Moran, D. E., '84 S
Morgan, L., '88 S
Morgan, T. C., '09 C
Morgan, W. F., '80 C
Moses, P. R., '95 S
Mulford, R., '84 S
Müller, G., '87 S
Munsell, C. E., '78 S
Munroe, G. E., '77 P & S
Munroe, H. S., '69 S
Murphy, W. G.

Nathan, E. J., '80 C
Neish, A. C., '04 U
Nichols, W. H., Jr., '94 S
Nordeman, H. F., '81 C
Norris, R. V. A., '85 S
North, E. P.

Oastler, F. R., '94 P & S
O'Connor, J. A., '87 S
O'Connor, J. C., '70 L
Oehler, J., '79 Phar
Olcott, E. E., '74 S
Owens, W. W., '79 S

Paddock, L., '10 C
Paddock, R., '10 C
Page, W. H., '86 L
Palmenberg, O. W., '02 S
Palmer, W. G., '07 C
Park, W. H., '86 P & S

Parker, H. C., '90 S
Parker, J.
Parkin, W., '77 L
Parrish, E. C., '95 C
Parsons, W. B., '82 S
Payne, C. Q., '82 S
Peele, R., '83 S
Peet, E. W., '90 P & S
Pellew, C. E., '84 S
Perkins, T. S., '88 S
Perry, E. D., '75 C
Phillips, E. S., '11 F. A.
Pierce, F. E., '92 S
Pitkin, L., '81 S
Platt, C. S., '68 S
Poland, A. B.
Pomeroy, W. A., '93 S
Porter, H. H., '86 S
Post, A. S., '84 S
Powell, W. R., '88 C
Powers, J., '70 P & S
Prince, J. L., '94 S
Proctor, W. R., '84 S
Pupin, M. I., '83 C

Ramsperger, G., Phar
Randall, E. S., '95 S
Raynor, R., '89 S
Reed, C., '10 C
Reed, C. A., '83 S
Reed, S. A., '77 C
Remington, H. W., '09 S
Renault, G., '83 S
Richardson, J. C., '83 S
Ricketts, P. de P., '71 S
Ricketts, R. M.
Riederer, H. S., '01 U
Riederer, E. J., '97 S
Rigg, G., '79 S
Rives, G. L., '68 C
Robinson, E. C., '90 S
Robinson, H. A., '80 S
Romaine, G., '82 C
Rowland, C. B., '84 S
Roy, M., '09 C
Ruland, F. D., '89 P & S
Runyon, E. W., '73 Phar
Russell, R., '89 S

Sage, E. E., '77 S
Sawyer, C. P., '81 S
Sayre, R. H., '81 C
Schermerhorn, F. A., '68 S
Schlosser, P., '02 S
Schmelzel, J. H., '83 C
Schroeder, J. L., '89 S
Schwarz, W. M., '07 C
Scudder, H. T., '74 C
Seldner, R., '94 S
Seligman, I. N., '76 C
Seligman, J., '78 C
Share, W. W., '81 S
Sherman, H. C., '97 U
Shoup, W. C., '96 C
Shrady, A. M., '93 P & S
Shriver, H. T., '88 S
Silers, Karl, '89 S
Simpson, M. K., '80 P & S
Sinclair, J. E., '06 S
Sloan, S., '87 C
Smith, A., '89 S
Smith, A. C.
Smith, F. P., '88 S
Smith, H. A., '93 F.A.
Smith, J. B., Jr., '01 C
Smith, L., '68 S
Smith, W. M.
Soper, G. A., '98 U
Spooner, A. N., '86 S
Stauffen, E., Jr., '04 C
Stires, E. M.
Stone, G. C., '79 S
Struthers, J., '85 S
Suter, G. A., '83 S
Suydam, C. C., '56 C
Suydam, J. R., '11 S

Taber, C., '84 C
Taylor, C. E., '09 U
Taylor, E. R., '09 S
Thompson, M. T., '75 S
Thomson, G. F., '83 C
Thorburn, A. M.
Thurston, E. D. Jr., '07 S
Tibbals, G. A., '83 S
Todtschinder, P., '13 S
Tombo, R., Jr., '98 U

Tonnelé, T., '80 S
Townsend, J. H., '86 C
Tucker, S. A., '95 S
Turnbull, A., '86 C
Tuthill, B. C., '09 C

Uhlig, W. C., '96 S
Underhill, A. D., '00 S
Underhill, F. E., '93 C

Van Amringe, J. H., '60 C
Van Boskerck, R. W., '77 S
Vanderpoel, F., '75 S
Van Ingen, D. A., '92 S
Van Sinderen, A. H., '81 S
Vedder, H. A., '91 P & S
Von Nardroff, E. R., '86 S
Vredenburgh, W. Jr., '98 S
Vulte, H. T., '81 S

Wade, H. T., '93 C
Wainwright, J. H., '82 S
Wainwright, R. T., '90 S
Waldenberger, C. A., '97 S
Waldo, L., '75 S
Waldstein, M. E., '75 S
Walker, A. L., '83 S
Walker, H. V., '94 S
Walker, J., Jr., '80 S
Ward, F. F., '94 P & S
Ward, S. B., '61 C
Ward, W. P., '65 C
Ware, F., '08 C
Warren, C. P., '90 F.A.
Warren, G. E., '03 C
Warth, A. H., '07 C
Welch, A. McM., '90 F.A.
Wells, D. C., '96 S
Wheeler, A. F.
Wheeler, J., '11 C
Wheeler, S. S., '83 C
Whipple, D. W., '08 S
Whitaker, M. C.
White, M. L., '08 S
White, R. H., '01 C
White, W. T., '82 S
Whitman, H. H., '85 C
Wiechmann, F. G., '81 S
Wiener, W., '91 S
Williams, C., '74 P & S
Williams, F. H., '74 S
Williams, G. W., '79 S
Williams, S. G., '81 C
Wilson, G. T.
Wilson, M. O., '82 C
Wimmer, C. P., '02 Phar
Wolbarst, A. L., '98 P & S
Woolson, I. H., '85 S
Woodin, W. H., '90 S
Worcester, E. D.
Wright, R. G., '99 S

Young, E. L., '82 S
Young, R. R.

Zanetti, J. E.
Zons, F. W., '07 C

Note.—A number of others responded too late to be included in the list

CONTRIBUTORS TO THE LECTURE FUND AND MEDAL PRESENTED TO DR. CHARLES FREDERICK CHANDLER ON HIS RETIREMENT

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1861—Samuel B. Ward, *C*
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1886—Wilton G. Berry, *S,* Chamberlin, *S,* Edwin B. Cragin, *M,* Edwin S. Curry, *S,* Percy Fridenberg, *C,* J. H. Janeway, Jr., *S,* Ernst J. Lederle, *S,* T. C. Mitchill, *C,* William H. Page, *L,* H. Hobart Porter, *S,* L. J. Reckendorfer, *C,* Allen N. Spooner, *S,* E. R. Von Nardroff, *S*

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1892—Samuel W. Bandler, *C,* '94 *M,* Henry Burden, 2d, *S,* Edmund Clark, *S,* Edward L. Dufourcq, *S,* Samuel Friedman, *S,* Charles H. Peck, *M,* Frederick E. Pierce, *S,* A. W. Shrady, *M,* Dudley A. Van Ingen, *S,* D. Everett Waid, *Arch*

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1899—Harrison K. Bird, *S*

1900—Harry W. Acton, *S,* Morton G. Bogue, *C,* Dawson J. Burns, *S,* Robert H. Goodwillie, *S,* William C. Meissner, *S,* A. D. Underhill, *S,* Moritz Wormser, *C,* '03 *S*

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1905—W. E. F. Bradley, *S,* Frederick S. Cook, *S,* Percy W. Donovan, *S,* Henry S. Doty, *S,* R. Stuyvesant Pierrepont, *C,* du Pin R. de Sallier, *S,* J. L. Tonnele, Jr., *C,* J. Laurence Waldron, *C,* '07 *S*

1906—Harold Baxter, *S,* A. O. Eimer, *C,* H. Norton Johnson, *S,* J. Edwin Sinclair, *S,* R. S. Schultz, Jr., *S,* Albin H. Warth, *S,* Kenneth S. Webb, *C*

1907—Percy A. Boeck, *S,* Gustav H. Heidgerd, *S,* H. R. Smith, *S,* Edward D. Thurston, Jr., *S,* Paul D. Willard, *S,* Frederick W. Zons, *C*

1908—Carl G. Amend, *S,* Harold A. Content, *C,* Gerard A. Reichling, *C,* Dorris W. Whipple, *S*

1909—Richard O. Bonner, *S,* Paul F. Brophy, *S,* Charles Crew, *S,* T. Earle, *S,* H. Fonts, *S,* L. E. Grant, *S,* Royal P. Jarvis, *Pure Sc,* H. F. Kudlich, *S,* F. S. Mead, Jr., *C,* T. C. Morgan, *C,* '11 *S,* W. R. Morgan, *C,* G. E. Zabriskie, *S*

1910—B. G. Feinberg, *Pure Sc,* Julius A. Lewisohn, *S,* Lincoln Paddock, *C,* Royce Paddock, *C*

1913—Paul Todtschinder, *S*

Non-graduates—Gorham Bacon, H. C. Bumpus, Virgil Coblentz, William J. Gies, E. J. Hall, A. D. F. Hamlin, J. Livingston R. Morgan, Gustav Ramsperger, H. H. Rusby, William Skarstrom, Carlo L. Speranza, M. C. Whitaker

CONVEYANCE OF THE TESTIMONIAL BY THE COMMITTEE OF THE ALUMNI TO THE UNIVERSITY

Pierre de Peyster Ricketts
Chairman of Dinner Committee

OFFICE OF THE CHAIRMAN
104 JOHN STREET
NEW YORK

TESTIMONIAL DINNER
TO
DR. CHARLES FREDERICK CHANDLER

April 2, 1910

DR. NICHOLAS MURRAY BUTLER,
President of Columbia University in the City of New York

Dear Sir:—

In recognition of the long services and devotion of Dr. Charles Frederick Chandler to their Alma Mater, the Alumni of Columbia University through the undersigned, a committee appointed for the purpose, herewith place in your hands the sum of .... thousand dollars, together with the die of the gold medal presented to Dr. Chandler.

(1) The fund contributed by the former students and friends of Professor Chandler, with the die of the gold medal presented to Dr. Chandler is hereby given and conveyed to the Trustees of Columbia University, the sum specified with any additions thereto to constitute the principal of a permanent fund to be known as the Charles Frederick Chandler Foundation.

(2) The income from this fund to be used by the Trustees in defraying the expense of the delivery and publication of at least one public lecture each year on some phase of the science of Chemistry or its practical applications, such lecture to be delivered by the most eminent person obtainable and to be known as the Chandler Lecture.

(3) The Chandler Lecturer to receive each year, in addition to the stipend voted by the Trustees from the income of the fund above named, a replica of the gold medal presented to Dr. Chandler, to be known as the Chandler Medal, the cost of such replica to be a charge on the income of the fund.

(4) The Chandler Lecturer to furnish, as a condition of his appointment, the manuscript of his lecture for prompt publication by the Columbia University Press or in such other form as the Trustees may determine.

It is hoped that there will be many subsequent additions to the sum now handed you sufficient to at least provide an income of .... per annum.

Respectfully yours,
Pierre de Peyster Ricketts, '71 Mines
Chairman
Charles Buxton Going, '82 Mines
Secretary
Robert Clifford Cornell, '74 Arts
Timothy Matlack Cheesman, '74 Arts, '78 P. and S.
George Cameron Stone, '79 Mines
Charles Pike Sawyer, '81 Mines
William Curtis Demorest, '81 Arts
Arthur Henry Elliott, '81 Mines, Coll. Pharm.
Georges Renault, '83 Mines

Note.—As the subscription list is to remain open until June, 1911, Dr. Chandler being on leave of absence until then, the amount of the fund and the income cannot be given. The fund is expected to reach a total of twenty thousand dollars, an amount necessary to give an adequate interest return.

Columbia University
in the City of New York
president's room

April 4, 1910

Prof. P. DeP. Ricketts,
No. 104 John St., New York

Dear Professor Ricketts:

It gives me pleasure to advise you that at a meeting of the Trustees held today, the following resolution was adopted:

Resolved, That the Trustees accept with satisfaction and pleasure the proposal of a Committee representing the alumni and friends of Dr. Chandler to present a sum of money, together with the die of the Chandler Medal, such sum to constitute a permanent fund to be known as the Charles Frederick Chandler Foundation, the income of which is to be expended in the manner described in the letter addressed to the Trustees by the representatives of the donors, under date of April 1, 1910.

Whenever you are ready to make the actual gift to the Treasurer, he will be pleased to receive it and to administer it.

Faithfully yours,
Nicholas Murray Butler
President

DR. CHANDLER'S LAST LECTURE

Dr. Chandler delivered his last lecture and bade farewell to fifty-four years of academic work in room 301, Havemeyer, on the morning of May 13. There was the same old large white pitcher of cold water on Chandler's desk, of which he was accustomed to drink a glassful in the mid-hour, and Chandler himself was the same as ever, the spare man with the hawk nose and the white moustache concealing a pleasant smile.

But there were more auditors than usual. In fact it was in that respect like the "Last Class" that Daudet wrote about when the Prussians came in and banished the French schoolmaster from the little Alsatian town, and all the big, blowsy village elders crowded in with the youngsters to hear the last alphabet spelled in French.

For there were gray-haired men, and middle-aged men and rapidly maturing alumni perched around the auditorium, clear to the highest seats. Chandler saw them when he came in; saw them, as you could tell by the quizzical broadening of his smile. But he just pitched into his lecture. And for a while the air was blue and intricate with the chemical formulas and abstractions that no one, perhaps, but Chandler ever knew how to make not only clear, but interesting with an interest vaguely like that of a good bit of fiction. Chandler had given that lecture scores of times, as he had all his lectures. But this time he altered it, strange to say cut it down even a little shorter than he was accustomed to cut down the final lecture before exams, and paused, with half the hour to spare.

That was the cue for a young member of the class named Albert Mendelssohn, who belongs to 1911, Science. He came forward with a glittering piece of silversmith work that might have been a piece of statuary, but on second look, turned out to be a loving cup. The cup-bearer made a little speech, aimed at Chandler but loud enough for all of them there to hear. He told Chandler that Chandler was a connecting link between the undergraduates and alumni or something like that; also that he was loved by the undergraduate body. Of course they were only an incident, for there are ever so many more graduates who have passed through Chandler's hands and on into the world in all those fifty-three other years.

Chandler took the cup, but he did not say that he did not know how to respond, or anything of that usual sort. He did not play to

LOVING CUP PRESENTED BY CLASS OF 1911

the emotions, either. He smiled, which is with him a matter of habit. And as he smiled he filled up the silver contraption from his old china water pitcher, not filling it full, because it was a somewhat large loving cup. With the cup in hand he then talked back a little at his friends. He loved teaching, he said. He wished he were just beginning to teach; and in fact he thought that when he went up where St. Peter is he would ask St. Peter just to let him go back and begin teaching all over again at Columbia.

They laughed, and with that laughter ringing, Chandler lifted the great awkward cup to his white mustache and drank the health of one and all, while the class rose as one man. As soon as his voice could be heard above the scattered cries, somebody shouted: "Spell it out for Dr. Chandler," and for fully fifteen minutes the rafters rang with cheer upon cheer as the crowd yelled itself hoarse. It was many minutes after the noise had subsided before the last man had filed out of the door and the one in whose honor the demonstration had been made could go into his office to take a quiet look at his latest present.

One interesting feature of the lecture was the fact that it was attended by one of the first men who ever sat under Professor Chandler, namely, Edward P. North, who was a student in civil engineering at Union College in 1857.

The loving cup bears the following inscription:

PRESENTED TO
CHARLES F. CHANDLER, A.M., PH.D., LL.D., SC.D.
PROFESSOR OF CHEMISTRY
COLUMBIA UNIVERSITY
BY THE
CLASS OF 1911
MAY 11, 1910
IN TOKEN OF THEIR ESTEEM FOR DR. CHANDLER
AS A SCIENTIST, AS PROFESSOR,
AND AS FRIEND

THE KNEIPE

A *Kommers* in honor of Professor Chandler was given in the Commons on the evening of May 13, the room being crowded to its fullest capacity. It was without doubt the most enthusiastic student gathering of the year, although there was a distinct note of pathos about it. Professor C. E. Pellew served as toastmaster, and speeches were made by Professor Marston T. Bogert, Professor M. C. Whitaker, who will conduct Dr. Chandler's courses next year, Dean-elect F. P. Keppel of the College, Dean F. A. Goetze of the Engineering Schools, James Myers, '04, Charles P. Sawyer, '81 S, representing the Science alumni, James Duane Livingston, '80, representing the College alumni, E. H. Osterhout, '10, Dixon R. Fox, '11, and R. K. Murphy, '10 S.

Before Dr. Chandler was introduced as the last speaker, Professor Bogert, on behalf of the department of chemistry, presented him with a silver cigar case and a box of his favorite brand of cigars, saying that at no time during his connection with the University had there been the slightest discord between the head of the department and the members of his staff.

When Professor Pellew introduced the final speaker on the program, it was many minutes before silence could be gained. When at length Dr. Chandler began to speak, it was evident that he was greatly moved. "My boys," he began, "how can I ever thank you for this final send-off that you are giving me." He then referred to a similar ovation in which he took part fifty-six years ago, in honor of a celebrated German mathematician. "But this case is slightly different," he added, "for the occasion of that send-off was the scientist's funeral, and this ovation seems the more acceptable to me, since I am alive to enjoy it." He said that he did not deserve all the countless flatteries which had been heaped upon him during the evening, for the services that he had rendered to Columbia during his forty-six years of active service had been given with a sense of duty and pleasure. He had always endeavored to do what seemed best for the interests of the institution and for the welfare of the students. Dr. Chandler then briefly traced the history of the School of Mines from its foundation to the present day, from the time when its faculty consisted of three members to the present, when it is unique as being the most successful purely professional school in this country. He also referred to the attitude which he had always assumed towards students. "I have always striven not to be a schoolmaster," he said, "but rather to be a helpful friend to all my students, and that is why I have always kept my office open to them at all hours of the day, in order that I might, perhaps, be of some use to them. . . . I have not the eloquence to express my thanks to you for this reception, but I shall never forget this evening, and although my official connection with you may be severed, I hope and trust that you may always regard me as your friend."

MEETING AND DINNER OF THE COLLEGE OF PHARMACY

At the annual meeting of the College of Pharmacy of the City of New York held on Tuesday evening, March 15, Professor Chandler delivered a farewell address to the members of the College, this being the last occasion on which he would appear before the members as a member of the faculty, though his duties in the faculty would continue until the close of the present term in June.

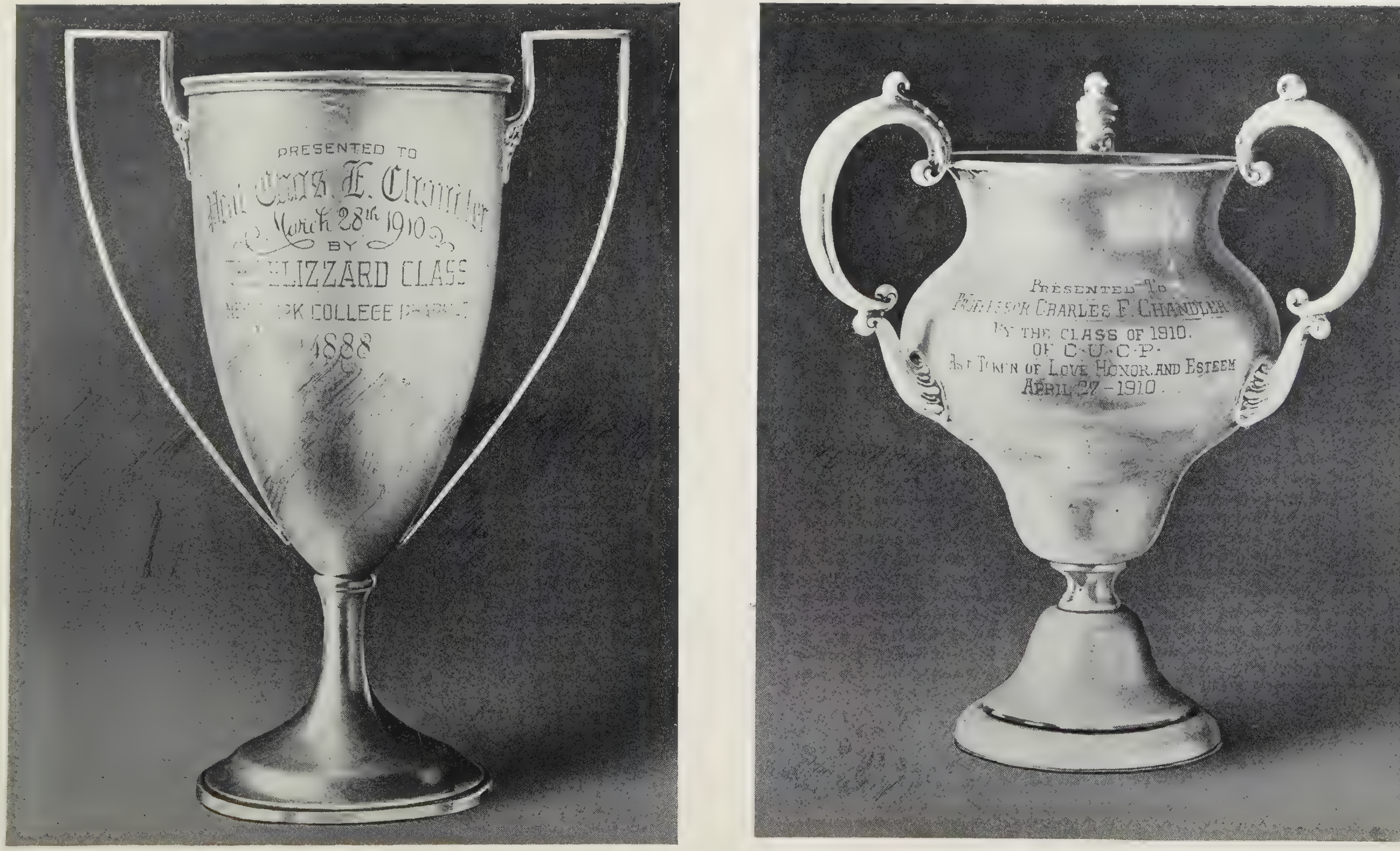
His address was wholly informal, consisting mainly of scattered reminiscences. He opened his remarks with a reference to the antiquity of pharmacy and to the prominent part that pharmacy had played in the development of chemistry in the middle ages. He mentioned by name many distinguished pharmacists or apothecaries and alchemists of that era, on whose work the science of chemistry is based. The list included Basil Valentine, the discoverer of antimony, Paracelsus, who first made medicinal use of mercury, Van Helmont, who first used the preparations of opium in medicine, and to later chemists who began life as apothecaries, including Scheele, Sir Humphrey Davy, Liebig, and Dumas.

Taking up the history of the College, he spoke of the lofty aims which animated the seventy-two pharmacists who, in 1829, adopted a constitution and by-laws and established an institution for the teaching of pharmacy in New York. He exhibited a copy of the first announcement, giving the names of the officers and the first lecturers, Dr. John Torrey, an old friend of his, who lectured on chemistry, and Dr. J. Smith Rogers, who lectured on materia medica and pharmacy. He quoted with approbation the purposes of the institution as set forth in the charter in the following words, that of "Cultivating, improving and making known a knowledge of pharmacy, the collateral branches of science, and the best modes of preparing medicines and their compounds, and of giving instruction in the same by public lectures." He congratulated the members upon having adopted a code of ethics that set up lofty ideals to be lived up to in order to secure recognition by the college. Many professions, he said, had never set forth their ideals in a code of ethics; had never endeavored to place their calling on such a high plane, and it was a source of pride and gratification to him to think that he had been associated with an institution whose ideals had been so lofty.

Coming to his own affiliation with the College, he said that in 1864 he had come to New York from Union College to teach at Columbia. In the spring of 1866 Professor P. W. Bedford called and asked him if he would lecture on chemistry at the College of Pharmacy. "What is it and where is it?" asked Dr. Chandler, as he had never heard of the institution before. Professor Bedford explained that the institution was yet in an undeveloped state, conducted by a handful of pharmacists and attended by only a handful of students, the student body numbering only thirty-two and there being only five graduates at the previous Commencement exercises. The work would require three evenings a week, and he would not be given any salary, but would be given a small allowance for his expenses. He asked for twenty-four hours in which to consider the matter and decided that pharmacists belonged to a class which should have a thorough education, that it was his duty to help in the education, and that since this was a good thing to do, he should do it regardless of the matter of remuneration. "My father always taught me," said Dr. Chandler, "that I should ask 'Is this a good thing to do?' If so, I should do it, regardless of whether or not there was anything in it for me. I have no patience with the spirit of those who constantly ask 'What is there in it for me?' When I tell one of my students of some opening which I think he would fill to advantage and the student asks, what is the salary, I invariably say, 'The salary is of no consequence, the question is, can you fill the position and does it offer an opportunity for your development. If it does, then the question of salary will adjust itself.' I finally told Professor Bedford I would take up the work, a decision I have never had cause to regret, for it has brought me into contact with many men of great capacity and of lofty ideals. Through it I have formed many friends whose friendship I shall cherish as long as I may live."

Professor Chandler exhibited the prospectus of the college for the session of 1866–67, in which his name first appeared. The faculty consisted of three members, Ferdinand F. Mayer, who had been a member of the faculty from 1860, occupying the chair of materia medica and botany, P. W. Bedford, who had been professor of practical pharmacy since 1864, and Dr. Chandler. The class of the previous session had thirty-two members whose names are given—one of whom was a woman, Lucy M. Abbott.

In conclusion Dr. Chandler said: "Wherever I see the green and red lights of the apothecary in New York, there I know I have a friend. I never go into a drug store but that some one comes up



LOVING CUPS, COLLEGE OF PHARMACY

and tells me he was of the class of '69, of '80, or possibly he is a junior student still. Sometimes they are boys, but newly matriculated at College. Sometimes they are old gray haired men, whose stooping shoulders and faltering footsteps make them seem older than I myself; always they are friends. This has been my highest reward, this has been my most cherished compensation. The feeling that I may have helped in the upbuilding of the institution, have aided in the formation of the minds of the rising generation of pharmacists and that this help has brought me the friendship of my students, is a source of pride and will remain a source of pleasure so long as I live. Although this has been announced as a farewell address, I shall not say farewell, for so long as I am able to go anywhere, I shall come to the meetings of the New York College of Pharmacy, there to meet the friends of a lifetime, dear friends, from whom I hope never to part."

A testimonial dinner was tendered to Professor Chandler by the officers, trustees, faculty and members, and the alumni of the College of Pharmacy of the City of New York at the Hotel Astor on March 28, 1910. Among the letters received was the following:

> It is with great regret that I find myself unable to be present at the dinner tendered to Dr. Chandler on Monday evening next, the 28th, by his old friends and colleagues of the College of Pharmacy. I probably know less of pharmacy than any living man, but I will yield to no one in my appreciation of the work which the men who founded and have built up the College of Pharmacy have done for an important and honorable calling and for the public welfare. That Dr. Chandler should have associated himself so early and so actively with the College is but one more claim that he has upon our gratitude and regard. His years of unselfish labor, his disinterested service, and his brilliant and inspiring lectures, have associated his name with the College in a way that will last as long as the College itself. It was he who suggested and made possible the incorporation of the College of Pharmacy in the educational system of Columbia University. He has been zealous and untiring in its welfare for many years, and now that he is about to withdraw from active academic service, he fully deserves the kindly and affectionate recognition that he is to receive at your hands and those who will assemble with you to meet him and do him honor on Monday night.
>
> NICHOLAS MURRAY BUTLER

Telephone messages were received from Dr. William C. Alpers and Edwin Henes, '71 Phar., telegrams from E. G. Eberle, Dallas, Texas, and G. H. Hitchcock, Albany, N. Y., and letters from W. J.

Schieffelin, George Kleinan, president of the German Apothecaries' Society, and a group of students of the College of Pharmacy.

In the course of the evening Professor G. C. Diekman, of the College of Pharmacy, presented Dr. Chandler with a beautiful silver loving cup, which is reproduced on the preceding page.

The following resolutions were adopted at the dinner:

WHEREAS

CHARLES F. CHANDLER

A.M., PH.D., M.D., LL.D., D.SC.

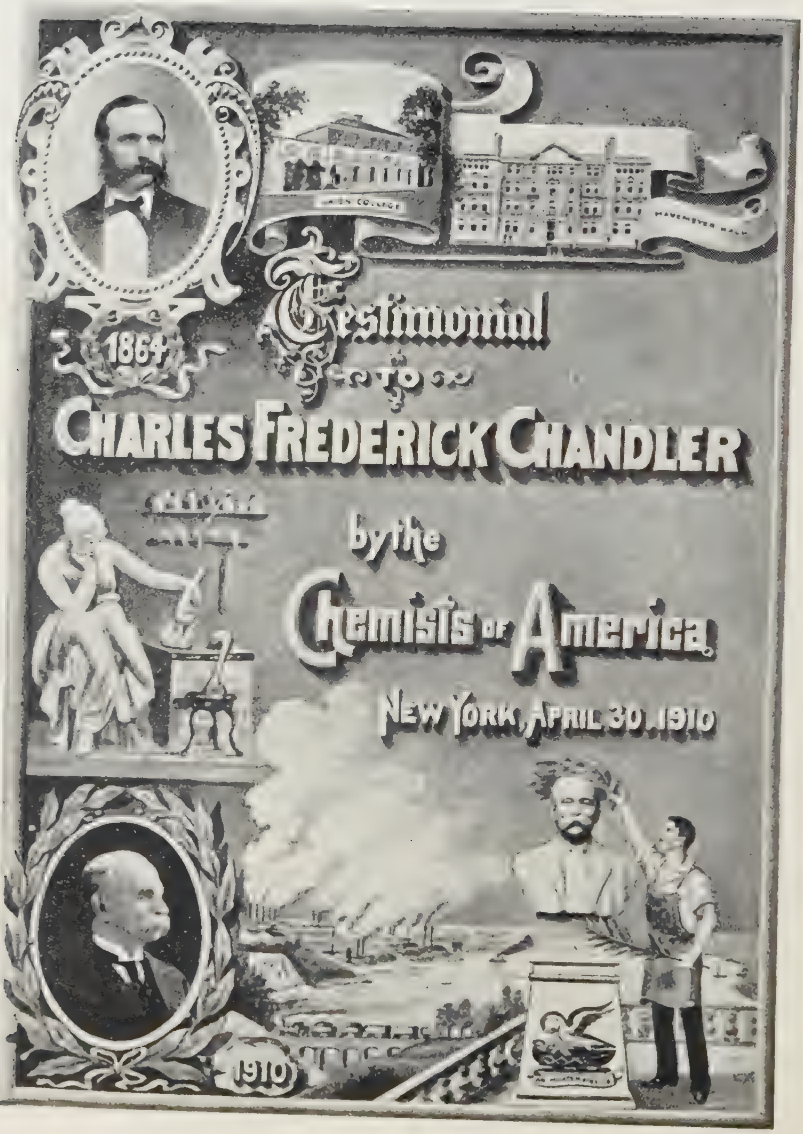
during the forty-three years of his connection with this College, has by his constant earnest work for the increase of its educational facilities, contributed in a large degree to its advancement from a small school of pharmacy to a department in Columbia University, and

Whereas, as Professor of Chemistry and Professor of Organic Chemistry, he has shown in his lectures a masterly delivery and a wealth of illustration that have commanded the respect and esteem of his classes and made of each student a personal and enthusiastic friend; therefore be it

Resolved, That we hereby express our high appreciation of his distinguished services to the institution, our regret that he wills at this time to retire from its faculty, with our earnest hope that he may for many years enjoy the love and esteem of his hosts of friends, and the well-earned honors universally conceded to his eminence in the profession to which his life has been devoted. And be it further

Resolved, That these resolutions be spread in full upon the College records and a copy suitably engrossed be presented to him.

Professor Chandler's last lecture at the College of Pharmacy was given on the afternoon of Wednesday, April 27. After he had bidden the members of the class a touching farewell, Mr. Louis W. Schwarz, president of the class of 1910, presented him with a beautiful loving cup, which is reproduced on the preceding page.


1864
COLLEGE
HAVEMEYER HALL
Testimonial
TO
CHARLES FREDERICK CHANDLER
by the
Chemists of America
NEW YORK, APRIL 30, 1910
1910

BANQUET OF THE CHEMISTS OF AMERICA

A banquet was tendered to Professor Chandler by the Chemists of America at the Waldorf-Astoria Hotel on April 30, 1910, the following organizations having taken the initiative in planning for the dinner and testimonial arranged in connection therewith: The Chemists' Club, The Society of Chemical Industry, The American Chemical Society, The American Electro-Chemical Society, The American Institute of Chemical Engineers, and The Verein Deutscher Chemiker.

The testimonial took the form of the presentation of a bronze bust of the guest of honor in heroic size, executed by J. Scott Hartley, to be presented by Dr. Chandler to the Chandler Museum of Columbia University—a replica of this bust was presented to Mrs. Chandler—and the creation of a Chandler Testimonial Fund for the purpose of purchasing books for the library of the Chemists' Club. The following men served on the committee of arrrangements:

Morris Loeb	I. F. Stone	Charles F. McKenna
Treasurer	Chairman	Secretary

Alexander Jerome, B.S., M.S., Treasurer, National Gum and Mica Co.
Amend, Otto P., of Eimer & Amend.
Baekeland, L. H., B.S., Sc.D., President, American Electro-Chemical Society.
Baskerville, Charles, B.S., Ph.D., F.C.S., Professor of Chemistry, College of the City of New York.
Black, Franklin, Secretary, Charles Pfizer & Co.
Bogert, Marston Taylor, A.B., Ph.D., Professor of Organic Chemistry, Columbia University.
Bowman, Walker, M.A., Ph.D., Chemical Engineer.
Breneman, A. A., B.S., Chemical Expert.
Coblentz, Virgil, Ph.M., Ph.D., Professor of Chemistry, Department of Pharmacy, Columbia University.
Darlington, Thomas, M.D., Ex-Commissioner, Board of Health.
Doremus, Charles A., A.B., A.M., Ph.D., M.D., Chemical Expert.
Elliott, A. H., Ph.D., Consolidated Gas Company.
Erhart, W. H., Vice-President, Charles Pfizer & Co.
Evans, William James, Treasurer, Chemists' Club.
Gifford, Livingston, of Gifford & Bull, Patent Attorneys.
Gray, W. S., Chemicals.
Hallock, A. P., Ph.B., Ph.D., Vice-President, Carl H. Schultz Co.
Hasslacher, Jacob, President, Roessler & Hasslacher Chemical Co.
Hendrick, Ellwood, Banker.
Herreshoff, J. B. F., Chemist and Engineer.
Hesse, Bernhard C., Ph.C., B.S., Ph.D., Chemical Expert.
Hooker, E. H., President, Development & Funding Co.

Humphreys, Alexander C., M.E., Sc.D., LL.D., President, Stevens Institute of Technology.
Kunz, Geo. F., Ph.D., Tiffany & Co.
Kuttroff, Adolph, President, Badische Co.
Lamb, A. B., Ph.D., Professor of Chemistry, New York University.
Lederle, E. J., Ph.B., Ph.D., Sc.D., Commissioner of Health, New York City.
Lieber, Hugo, Vice-President and Treasurer, Blaugas Co. of America.
Loeb, Morris, A.B., Ph.D., Chairman, New York Section, American Chemical Society.
McIlhiney, P. C., Ph.B., A.M., Ph.D., Secretary, Chemists' Club.
McKenna, Charles F., Ph.D., Chemical Engineer.
McMurtrie, William, E.M., M.S., Ph.D., Royal Baking Powder Co.
Matheson, W. J., of W. J. Matheson & Co.
Maxim, Hudson, Explosives Expert.
Merck, George, Merck & Co.
Metz, H. A., Ex-Comptroller, City of New York.
Moore, Russell W., A.B., A.M., M.Sc., U. S. Silk Conditioning Co.
Muurling, I. J. R., President, Farbenfabriken of Elberfeld Co.
Nichols, William H., B.S., M.S., D.Sc., General Chemical Co.
Nichols, William H., Jr., General Chemical Co.
Parker, T. J., General Chemical Co.
Pellew, Charles E., E.M., Adjunct Professor of Chemistry, Columbia University.
Plaut, Albert, President, Lehn & Fink.
Ricketts, P. deP., of Ricketts & Banks, Analysts and Mining Experts.
Roeber, E. F., Ph.D., Editor, Metallurgical and Chemical Engineering.
Rowley, W. E., LL.B., National Aniline and Chemical Co.
Schieffelin, William J., Ph.B., Ph.D., President, Schieffelin & Co.
Schniewind, Frederick, Ph.D., President, German-American Coke & Gas Co.
Smith, E. E., Ph.B., Ph.D., M.D., Professor of Chemistry and Medicine, Fordham University.
Stone, G. C., Ph.B., New Jersey Zinc Co.
Stone, I. F., President, National Aniline and Chemical Co.
Schweitzer, Hugo, Ph.D., Chemical Expert.
Takamine, Jokichi, D.Eng., D.Sc., Ph.D., D.Tech., Consulting Chemist.
Toch, Maximilian, F.C.S., LL.B., Chairman, New York Section, Society of Chemical Industry.
Tucker, S. A., Professor of Chemistry, Columbia University.
Waldstein, M. E., M.A., Ph.D., Maas & Waldstein Co.
Wesson, David, S.B., Southern Cotton Oil Co.
Zabriskie, C. B., Pacific Coast Borax Co.
Zinsser, F. G., Ph.D., Zinsser & Co.

The dinner was presided over by William Jay Schieffelin, and the following toasts were responded to: Our guest as a university professor, Nicholas Murray Butler, President, Columbia University; Our guest as a scientist, Ira Remsen, President, Johns Hopkins University; Our guest as an industrial chemist, William H. Nichols, Past-President, Society of Chemical Industry; Our guest as a fellow of chemical societies, Wilder D. Bancroft, President, American Chemical Society; and Our guest as a good fellow, Herman A. Metz, Ex-Comptroller, City of New York.

In presenting the bronze bust of Professor Chandler, Professor Marston T. Bogert, past-president of the American Chemical Society, spoke as follows:

Mr. Toastmaster, Dr. Chandler, Terrestrials and Celestials:

I gladly welcome this opportunity to lay my small tribute also at the feet of my master and friend.

His praises have been well and truly sung by the eloquent speakers to whom we have listened with such pleasure, and every word of eulogy found echo in our hearts, for "his character is not a bulge; it is a circle. His greatness is not an eccentricity; it is a symmetry. Its lines are not those of a hyperbola, ever chasing away from the center, but the sweep of a magnificent circumference, around which the sturdy virtues march and within which the gentler graces sing." For he has indeed followed the injunction—"Let there be many windows to your soul, that all the glory of the universe may beautify it. Not the narrow pane of one poor creed can catch the radiant rays that shine from countless sources. Tear away the blinds of superstition and let the light pour through fair windows, broad as Truth itself and high as God!"

For twenty-four years I have known Dr. Chandler and have been closely associated with him for the past sixteen. The better I have learned to know him, the better I have appreciated the innate nobility of his character. I always marvel at his imperturbable sunny disposition, which seems proof against troubles and disappointments of all kinds.

"For it's easy enough to be pleasant when life flows along like a song,
But the man who's worth while is the man who can smile
When everything goes dead wrong."

Do you want to know the secret of it? It's only the sunlight in his heart that you see shining out of those kind eyes. In the highest sense, it may be said of him that the boy in him has never grown old. He has never lost his cheerful optimism or his deep, abiding faith in the goodness of an all-wise Providence.

I would speak also of his great generosity, for he has always given gladly and liberally of his time, talents, and money, whenever a worthy object needed his assistance, and his love of service in any field where his great ability and unwearying industry might be of benefit to mankind, is known to all and has already been referred to by other speakers.

And his happiness in his work is an inspiration to all who come into contact with him. He does not belong to the class "who turn their backs to the sunlight and sing requiems to their shadows," but I am sure Henry Van Dyke must have had him in mind when he wrote:

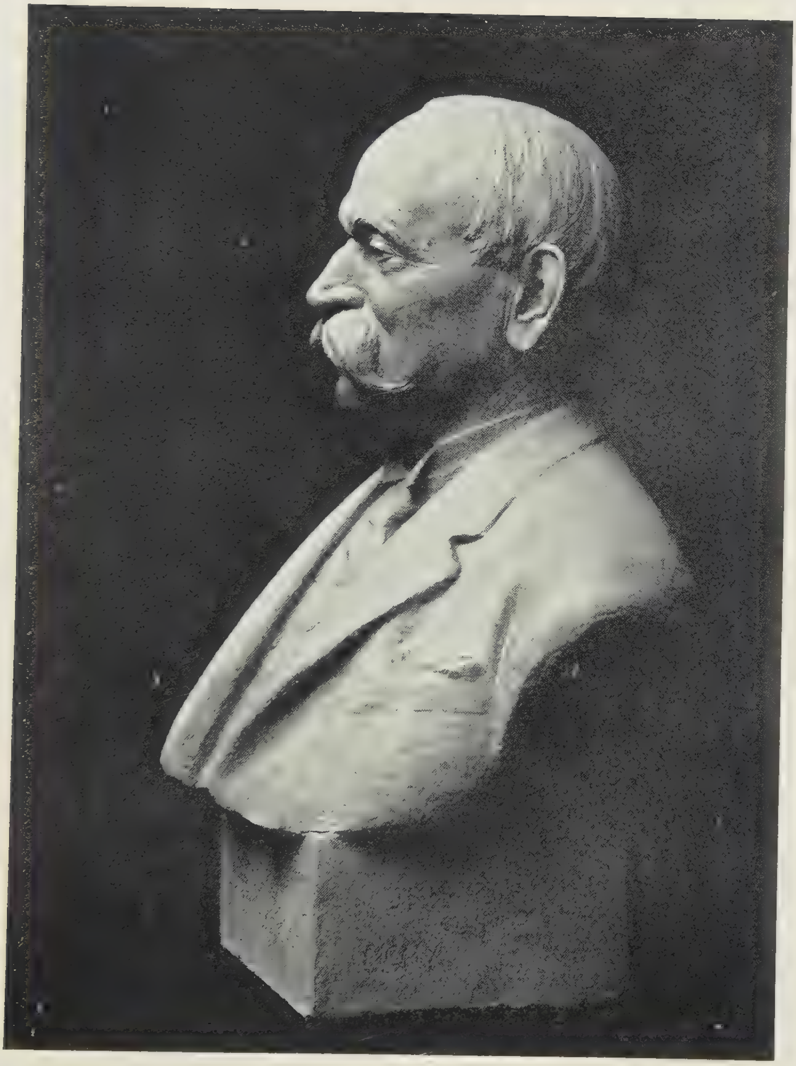
"Let me but do my work from day to day,
In field or forest, at the desk or loom,
In roaring market-place, or tranquil room;
Let me but find it in my heart to say,
When vagrant wishes beckon me astray—
This is my work; my blessing, not my doom;
Of all who live, I am the one by whom
This work can best be done in the right way.

Then shall I see it not too great, nor small,
To suit my spirit and to prove my powers;
Then shall I cheerful greet the laboring hours,
And cheerful turn, when the long shadows fall
At eventide, to play and love and rest,
Because I know for me my work is best."

Our country is indeed fortunate that such a man should be spared to teach her youth for more than half a century, and yet, as has already been said of our guest, it is not alone, or chiefly, the knowledge that he has imparted to others, so much as the force of his own noble example and what that has inspired others to do—not what he has taught, so much as what he is, that has made his influence felt far and wide throughout our land, and "he who influences his own time, influences all time, and is one who is really leaving an impress upon Eternity."

"If stores of dry and learned lore we gain,
We keep them in the memory of the brain;
Names, things and facts—whate'er we knowledge call,—
There is the common ledger for them all;
And images on this cold surface traced
Make slight impression and are soon effaced.
But we've a page more glowing and more bright,
On which our friendship and our love to write;
That these may ne'er from out our souls depart,
We trust them to the memory of the heart,
There is no dimming, no effacement there;
Each new pulsation keeps the record clear;
Warm, golden letters all the tablet fill,
Nor lose their luster till the heart stands still."

Dr. Chandler: The chemists of America, whose great national organizations are officially participating in this testimonial, and who, together with your many other friends here have come from North, South, East and West, not to bid farewell, but to express our affectionate regard for you, and to pay a just and grateful tribute to your



BRONZE BUST OF DR. CHANDLER
Presented by the Chemists of America, April 30, 1910

long, distinguished and beneficent services, are unwilling that this occasion should pass without leaving behind it some memorial which shall testify to all time your active and fruitful career.

We are mindful of the fact that the Trustees of Columbia University have already affixed your name to the wonderful Chemical Museum which you built up practically single-handed, and which has been for years the greatest museum of the kind in the world; in addition to which your former students at Columbia have established the Chandler Lecture Foundation through which your name will continue forever associated with lectures on chemistry at Columbia.

It has been our endeavor, however, to establish a memorial which shall not only worthily commemorate your services but which shall also perpetuate the face of the one whom we have all learned to love so well.

We have, therefore, entrusted to the eminent sculptor, Mr. J. Scott Hartley, the very unusual task of preparing a bronze bust, of heroic size, of a man still hale and hearty. Mr. Hartley has brought to the task all his great skill, and in honor to him be it said that it has been with him a labor of love in no inconsiderable degree. It is a source of great regret to all of us that this bust is not ready for unveiling tonight. In the opinion of all who have seen the completed model, it is very fine, and I understand that Mr. Hartley himself regards it as one of his best productions.

This is the gift which the chemists of America, and others of your friends associated with them, now formally make to you, and as you have informed me that it is your desire that this bust become the permanent property of Columbia University, in conformity with your request I now have the honor to present to you, Dr. Nicholas Murray Butler, as president of Columbia University and representing its board of trustees, the title to this bust of one whom we all delight to honor, and to express the hope that an appropriate place may be found for this memorial in the halls of that great educational institution which has been so fortunate as to command the services of our distinguished guest for the past forty-six years, and of which he has been in so many ways one of the chief builders. It is our wish that his name and his fame may abide forever as an inspiration to future generations of Columbia students, and that this bust may also commemorate his eminent services to Chemistry, to our industries, in the cause of sanitary science and of preventive medicine, to the City, the State, and the Nation.

One pleasant duty remains. While the bust of heroic size is not yet finished, I now have the pleasure of unveiling a life-size copy of it in bronze, and I am delighted to have the privilege of presenting to Mrs. C. F. Chandler this bust of her well-beloved husband, and to ask that you, Dr. Chandler, receive it for her from the chemists of America and other friends associated with them. May it bring you both as much happiness as it does to us in being able to present it to you.

Dr. Chandler replied with much feeling, expressing his heartfelt appreciation of the high honor paid to him by his brother chemists, and wishing that he could feel that he deserved a small fraction of the commendations of the various speakers. He especially thanked Dr. Bogert for his beautiful speech of presentation, and Dr. Butler for the consent of the trustees of Columbia to receive the bust and give it a permanent place in Havemeyer Hall, where it would remain in company with the portrait painted by Mr. John W. Alexander and presented some years ago by his old students. He then said that Mrs. Chandler, being well satisfied with the living sitter for the bust, had requested him to present the replica to the Chemists Club, in the success of which as a meeting place and a home for the chemical profession he is so deeply interested.

The speaker then briefly sketched the progress of the movement which has been so successful in bringing the chemists of America together. This movement began in 1874 with the centennial of chemistry at the grave of Priestley at Northumberland, Pa. This was soon followed by the chartering of the American Chemical Society in 1876, which with its many local sections now enrolls nearly five thousand members and issues monthly journals of chemistry and chemical engineering, and a bi-monthly journal of abstracts. He also referred to the American sections of the English Society of Chemical Industry, and the Verein Deutscher Chemiker, to the American Institute of Chemical Engineers, and finally to the Chemists Club.

He enlarged particularly on the many and great advantages that the chemical profession would enjoy as a result of the present movement of the Chemists Club to secure a suitable home for the organization at an outlay of over half a million dollars, a plan that has been rendered possible by the very generous aid of Dr. Morris Loeb, Dr. William H. Nichols, and more than one hundred other chemists and firms interested in the chemical industries. He also referred to the activity of Dr. Maximilian Toch and his associates in securing subscriptions for the enterprise. He dwelt especially on the prospect of a complete chemical reference library, and a duplicate circulating library, the latter to be made useful to the chemical profession throughout the United States and Canada by the aid of a competent staff of expert chemists, and to constitute a veritable bureau of information for chemists.

Dr. Chandler ended by thanking all present for the honor they had bestowed upon him, and particularly his dear Schweitzer for his general activity in organizing the banquet and for the trouble he had taken in preparing the elaborate menu. He extended his thanks also to Dr. Martin E. Waldstein and his associates of the committee on the bust, and to Mr. Hartley, who had been so successful in its execution.

Letters and telegrams were received among others from the following: Professor W. P. Mason of the Rensselaer Polytechnic Institute, the Verein Deutscher Chemiker of Elberfeld, Germany, Professor Ubbelohde of the Technological School of Karlsruhe, Germany, Drs. Karl and Hans Goldschmidt of Essen-Ruhr, Germany, Professor Edward Hart, Lafayette College, F. W. Frerichs, St. Louis, Dr. and Mrs. Edward Gudemann, Brigadier-General Timothy E. Wilcox, Washington, D. C., and Edward C. Davidson.

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VI. Columbite from Bodenmais.
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VIII. Yttrotantalite from Ytterby.
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Editor *American Chemist* (with Professor William H. Chandler), 1870–77.

Professor Chandler was elected the first honorary member of the Society of Older Graduates of Columbia, a beautifully engrossed certificate of membership, signed by the president, secretary and directors of the Society, having been presented to him at the alumni dinner on April second.